Steam Navigation, Commerce, Finance, Banking, Machinery, Mining, Manufactures.

SECOND QUARTO SERIES .- VOL. XXXVIII., No. 46.]

NEW YORK, NOVEMBER 25, 1882.

[WHOLE No. 2,430.—VOL. LV.

THE editor of the RAILBOAD JOURNAL is pleased to receive information of railroad enterprises already entered npon or projected, items regarding the business done on the roads, such as relate to persons employed in the railroad and kindred interests; in short, about all matters which the readers of such a paper as this are gratified to find within its columns.

#### INCORPORATION.

ABTICLES of incorporation of the Faure Electric Storage and Light Company were filed by David J. Carson, Henry H. Tallmadge and Lewis C. Tallmadge, the trustees, in the county clerk's office, New York, on the 15th inst. The capital stock is stated at \$2,000,000.

A company has been organized at Wilmington, Del., under the name of the Salinas Peak Mining Company, with a charter from New Jersey, for the purpose of working a group of fine silver and copper properties in the San Andres Range, N. M., near the Fort Stanton Military Road. Capital, \$300,000.

The Walker Smoke Consuming Company has filed its certificate of incorporation at Freehold, N. J. The main offices of the Company will be at Long Branch. The Company purposes developing patents for the more complete combustion of fuel and the prevention of smoke and sparks, and will have \$1,000,000 capital.

ABTICLES of incorporation of the Columbus, Fort Wayne and Northwestern Railroad Co. have been filed in Indianapolis, Ind. The road is projected to run from Van Wert, O., to Fort Wayne, Ind., thirty-five miles. This is to be a short cut connecting the Hocking Valley with the Nickel-Plate at Fort Wayne. The link between Columbus and Van Wert is already in existence. William Fleming heads the directory of the new road.

ABTICLES of incorporation were filed with the Secretary of State at Albany, N. Y., on the 22d inst. of the Rockland Lake and Valley Cottage Railroad Company; capital, \$30,000; to run from a junction with the New York, West Shore and Buffalo Railway at Valley Cottage to the Lake House property, at the terminus of the road, running through it to Rockland Lake. The length of the road is two and a half miles, entirely within the county of Rockland.

ARTICLES of incorporation have been filed with the Secretary of State of Ohio of the Pomeroy, Minersville and Syracuse Street Railway Company, capital \$25,000. Also of the Union Street Railway Company, Pomeroy; capital \$50,000. Also of the Pittsburgh, Akron and Chicago

Railroad Company; capital \$50,000. Also the Pittsburgh and Maumee Railroad Company; capital \$50,000. Also the Greenville, Versailles and Northwestern Railway Company; capital \$250,000. The Grafton and Oberlin Railway Compan, principal office Grafton, Lorain county, Ohio; capital \$200,000.

THE incorporators of the Roodhouse and Scottsville Railroad Co. have elected the following officers: John Roodhouse, president. Roodhouse, Ill.; vice-president, Milton McClure, Carlinville, Ill.; secretary, J. L. Pattison; treasurer, J. W. Armstrong, of Roodhouse. The capital stock is \$200,000, and the length of the road fourteen miles. A survey will be made at once. It will be a branch of the Burlington and Ohio Railroad, and will be the connecting link between the Chicago and Alton Railroad at Roodhouse and the Indianapolis and St. Louis Railroad at Gillespie, Ill. It is known as the New Kansas City Short Line East. The Burlington and Ohio Railroad is nearly graded to Scottsville, and track-laying is progressing from Gillespie to Carlinville.

#### PERSONAL.

Mr. H. D. Averill, general ticket agent of the Housatonic Railroad, is still confined to the house from his recent attack of illness, but is reported this week as slowly recovering.

JOHN SCHULLIN, of St. Louis, Mo., has been appointed general manager of the Mexican National Construction Company. James Sullivan continues to represent this company in Mexico.

THE Canadian "Independence of Parliament" act will probably be shortly amended so as to permit members of the Canadian Pacific Directory and Syndicate to sit in the Senate or House of Commons.

J. MURRAY, late of the Northern Pacific Railroad Company, has been appointed assistant superintendent of the Canadian Pacific Railway. He will have charge of the line from Brandon to Swift Current.

THE contract for the Potomac Flats Improvement has been awarded to Sanford Ross, of New York, who is characterized in the reports as the "lowest responsible bidder," and the secretary approved the recommendation.

At a meeting of the directors of the Hannibal and St. Joseph Railroad Company, held in this city on the 15th inst., the following officers

were elected: William Dowd, president; Russell Sage, vice-president; John A. Hilton, secretary, and Walter J. Hilton, treasurer.

THE President has appointed Waterman Smith, of New Hampshire, John S. Pillsbury, of Minnesota, and William H. Comstock, of New York, a commission to examine fifty miles of the Northern Pacific Railroad in the Yellowstone Valley, in the Territory of Montana.

#### ORGANIZATION.

THE following gentlemen have been elected directors of the American Loan and Trust Company: George H. Potts, George S. Scott, Alexander T. Van Nest, William B. Dinsmore, Joseph T. Low, Jesse Hoyt and John I. Blair.

THE following gentlemen have been elected trustees of the Edison Electric Light Company for the ensuing year: S. B. Eaton, Thomas A. Edison, Edward H. Johnson, Calvin Goddard, M. F. Moore, E. G. Fabbri and W. H. Meadow-croft.

At the annual meeting of the Boston, Revere Beach and Lynn (narrow gauge) Railroad Co., held on the 15th inst., the following gentlemen were re-elected directors for the ensuing year: Edwin Walden, John B. Alley, Edward Tyler, David H. Sweetser, Matthew Bolles, Amos F. Breed, L. S. Judd, A. B. Martin, Isaac P. T. Edmands.

At the annual meeting of the Sandy River Railroad Company, held at Phillips, Me., on the 15th inst., the following directors were chosen: N. B. Beal, D. L. Dennison, James Morrison, Jr., of Phillips, and P. H. Stubbs and J. W. Porter, of Strong. The directors chose N. B. Beal, president, D. L. Dennison, superintendent and P. H. Stubbs, clerk.

Ar the annual meeting of the Richmond, Fredericksburg and Potomac Railroad Co., held at Richmond, Va., on the 15th inst., Col. Joseph P. Brinton was re-elected president, and A. Sydney Biddle, Charles Chauncy, J. S. Blackburn, Dr. Francis T. Willis, directors on the part of the private stockholders. Dr. Anderson was announced as State director.

At the annual meeting of the stockholders of the European and North American Railway Company, held at Bangor, Me., on the 15th inst., the following were chosen directors: N. H. Wood, Samuel H. Bearse, Franklin A. Wilson, N. C. Ayer, Thomas J. Stewart, Sprague Adams, Charles P. Stetson, John S. Ricker, Wilbur J. Webb. At the directors' meeting Noah Woods was elected president and Charles P. Stetson clerk.

At the recent annual session in Chicago of the Railway Conductors' Mutual Aid and Benefit Association, James G. Shearman was elected president for the ensuing year; E. A. Shadd, first vice-president; Harry M. Mounts, second vice-president; Charles Huntington, secretary and treasurer. The directors are: Thomas P. Rabb, George Hewitt, John R. Sandy, J. C. Wheeler, W. M. Calwell, F. X. Veva and J. S. Cooper.

The directors of the Indianapolis and Springfield Railroad Company, recently elected, are: John Caven, Thomas A. Morris, Franklin Landers, M. D. Manson, John Lee, L. M. Campbell, J. A. Larnerd, Thomas N. Rice, A. K. Start, George W. McCune, J. H. Piercy, T. N. Nichols, C. E. Thornton. The officers are: President, John Lee; vice-president, John Caven; secretary, Charles E. Thornton; treasurer, James M. Nichols.

At the third annual meeting of the stock-holders of the Argent Mining Co., held in Philadelphia on the 13th inst., A. G. B. Hinkle, M. D., Charles H. Graham, J. T. Hampton, M.D., J. Wilson, Henry Lipman, James Fuller, M. Perrine, A. Wasserman and H. R. Deacon were elected directors. Expenses were reported amounting to \$36,948.20, and the receipts from sales, etc., \$17,270.83. The present balance in the treasury is \$6,464.14.

At the annual meeting of the stockholders of the Baltimore and Ohio Railroad Company, held in Baltimore on the 20th inst., the following gentlemen were unanimously re-elected to serve for the ensuing year by a vote of 73,136 shares: Wm. F. Burns, Robert Garrett, John Spear Nicholas, John Gregg, Wm. W. Taylor, James Carey Coale, G. A. Von Lingen, Decatur H. Miller, Joshua G. Harvey, George W. Dobbin, Henry C. Smith and Aubrey Pearre.

AT the annual meeting of the stockholders of the Boston and Providence Railroad Company, held in Boston on the 15th inst., the report of the directors, an abstract of which is given on another page of this week's issue, was presented and placed on file. James T. Hayward, Frederick P. Anthony and Charles D. Woodward were appointed a committee to receive, sort and count votes for directors, the ballot resulting in the re-election of the old board, as follows: Henry A. Whitney, Thomas P. I. Goddard, J. Huntington Wolcott, William R. Robeson, Francis M. Weld, Joseph W. Balch, Royal C. Taft. The board subsequently organized by the choice of Henry A. Whitney as president. Winslow Warren, B. B. Torrey and A. A. Folsom were re-elected respectively clerk, treasurer and superintendent of the road.

A LITTLE book on the "Dress and Care of the Feet," from the house of G. P. Putnam's Sons, very neat and pretty in its letter-press and binding, is apt to secure attention not only because of the importance of its subject but its attractive appearance. We find that it gives a well-written account of Dr. P. Kahler's method of treating diseased and deformed feet, which is recommended by many quite notable people. His address is No. 815 Broadway, New York City.

#### The Erie Canal Free from Tolls.

THE vote at the recent election has given to the State of New York and the Northwestern States a free canal from the Lakes to the Hudson River. The Erie Canal, 345 miles long by 80 feet broad, is now as free as a navigable river. It will be a river of the future as well as of the past. "On the 30th of September, 1866," says the New York Produce Exchange Weekly, "it had paid for its construction, repairs and maintenance, leaving at that date a remainder from its earnings, including interest, of forty-one and a half million dollars. The Erie and Champlain canals together had on the 30th of September, 1881, a credit balance of 384 million dollars not including interest. The Erie, the Champlain and the Oswego canals together had on September 30, 1881, a credit balance of 341 million dollars, not including interest. These three canals are, together, 449 miles long. The entire canal system of the State, as it was, was nearly one thousand miles long. There have been taxes levied on the property of the State, over and above what the canal revenues have repaid, \$19,376,742.75, the total tax for canal purposes having been \$38,227,154.69. The earnings of the Erie Canal paid back \$18,850,411.94 in contributions to the general fund and general fund debt. The credit balance of the Erie Canal of forty-one and a half millions, plus the taxation of \$38,227,154,69, was expended for the construction and maintenance of the lateral canals, that never paid their expense of maintenance. The non-canal counties have had from taxation and the Erie Canal surplus \$79,727,154.69. Of this tax of \$38,227,154.69 the canal counties, including New York and Brooklyn, paid about 21.28 of it. The counties of New York, Kings, Westchester and Columbia have contributed to the interior counties about \$800,000 per annum for school purposes, and of this amount the non-canal counties have annually received about \$420,000. The noncanal counties have had much money spent for them. Their tax for canal purposes, in consequence of making the canals free, will be less than one-half of what they get from the school fund annually.

"If the surplus of forty-one and a half millions of the Erie Canal net earnings had been invested the interest would have been more than sufficient to maintain it free of all tolls, and to give it ten feet depth of water.

"The property of the Western and Northwestern States passing through the Erie Canal has paid tolls sufficient to give a surplus that, put at interest, would forever maintain the Erie Canal free. These States could, with good reason, demand that no more tolls should be imposed on their property when such tolls were for paying the construction of New York's lateral canals that they had never used.

"The Eric Canal has not outlived its usefulness. Freed from all tolls it will be for all time a formidable competitor of the Mississippi and the St. Lawrence routes. The daily clearances of boats from Buffalo and Oswego average from fifty to sixty, which carry about as many tons of property as fifty to sixty railway trains of 24 cars each. The Northwestern States

will rejoice that New York has given them by its vote a free water highway from the lakes to the Hudson River.

"There is annually brought into the State of New York, for consumption, fifty million bushels of grain more than is grown in the State. This large quantity of grain, with a free canal, will save to the consumers half a million to a million dollars annually. Every portion of the State will share in the benefits of a free canal by its giving cheaper bread, cheaper grain, cheaper lumber, cheaper building materials, cheaper transportation of all products and a stronger holding of a vast commerce that has enriched every portion of the State."

#### Anthracite Coal Tonnage.

THE following is an official statement of the anthracite coal tonnage for the month of October, 1882, compared with the same month in 1881:—

	1882.	1881.
Philadelphia and Reading Railroad		678,651
Lehigh Valley Railroad	603,201	549.562
Central Railroad of New Jersey	416,461	379,676
Delaware, Lackawanna and Western	470,079	411,266
Delaware and Hudson Co	322,237	290,077
Pennsylvania Railroad	226,224	198,407
Pennsylvania Coal Co	156,453	144,878
New York, Lake Erie and Western		
Railroad	22,431	34.133

	1882.	1881.
Reading Railroad	5,626,993	5,616,402
Lehigh Valley Railroad	4,840,588	4.575.345
Central Railroad of New Jersey	3,485,090	3,317,801
Delaware, Lackawanna and Western.	3,813,712	3,539,593
Delaware and Hudson Canal	2,563,220	2,590,132
Pennsylvania Railroad	1,973,329	1,835,602
Pennsylvania Coal	1,202,423	1,182,499
New York, Lake Erie and Western		
Railroad	217,925	389,949
	-	

Thriving Cleveland has its Trade Review and Western Machinist, a prosperous looking sheet containing good reading matter and a liberal amount of advertising. With the issue of November 18 it passes into new hands, having been purchased by Messrs. William M. Day, lately an editor of the Akron Beacon, and formerly a night editor of the Cleveland Leader, and Frank A. Carter, who was associated with that gentleman on the Beacon. Mr. Carter has charge of the business, and Mr. Day of the editorial department of the journal, which is published weekly. We wish them the prosperity which, judging from the number before us, they are working conscientiously to earn.

The association of workmen employed at the Baldwin Locomotive Works, Philadelphia, celebrated the semi-centennial of the successful trial of the first locomotive sent out of the shops by a theatrical performance at the Chestnut Street Theater on the evening of November 23. The ancient motor was called "Old Ironsides," and was built by M. W. Baldwin on Minor street, near Sixth and Chestnut streets. It was first tried on the Germantown Railroad, running at the rate of one mile an hour. After each stoppage the engine had to be started by pushing.

#### Boston and Providence Railroad.

THE receipts of the Boston and Providence Railroad for the year ending September 30, 1881 and 1882, were as follows:-

1001	1881.	1882.
From passengers	\$822,751 57	\$910,763 25
From freight	533,956 52	605,221 49
From rents	19,167 82	20,520 50
From express	39,908 73	- 34,659 64
From mails	12,528 32	13,665 47
Expenses:	\$1,419,312 96	\$1,584,839 44
Salaries of general officers		
and clerks		\$31,047 77
Legal expenses		4,884 73
Insurance		133 00
Stationery and printing Outside agencies and adver	7,725 82	8,582 00
tising		12,520 86
Contingencies and miscella		12,320 00
neous		1,165 87
Repairs of bridges		16,063 38
Repairs of buildings	80,527 62	118,006 55
Repairs of fences, road cross	-	
ings and signs		6,528 54
Renewal of rails		30,822 80
Renewal of ties		27,436 09
Repairs of road-bed and track		153,246 13
Repairs of locomotives		93,726 29
Fuel for locomotives		114,838 44
Water supply		7,703 31
Oil and waste		14,521 10
Locomotive service		79.59x 45
Repairs of passenger cars		69,230 55
Passenger train service	44,416 83	46,080 20
Passenger train supplies		6,664 55
Repairs of freight cars		44,256 07
Freight train service		23,581 86
Freight train supplies		193 40
Mileage freight cars	201 87	2,322 76
Telegraph expenses	1,839 75	1,565 05
Gratuities and damages Agents and station service	9,348 33	4,203 81
	18,000 54	184,879 56
Station supplies	10,009 54	22,159 57

\$922,667 72 \$1,126,855 59 Net earnings..... \$496,645 24 \$457,983 85 From which deduct-Dividends May 1 and Novem-\$320,000 00 \$320,000 00 ber I, four per cent each.. Balance of interest account, Sept. 30. ..... State and local taxes ......

22,816 17 94,017 96 11,635 15 28,712 17 89,636 59 11,605 81 Attleboro Branch rent..... \$448,469 28 \$449,954 57 Surplus for the year..... \$46,690 67 Add balance September 30, 1881, \$438,-cot.96, less \$7,450.34 charged off to cover depreciation in real state..... 430,551 62

Balance to credit of profit and loss September 30, 1882... \$440,066 10

The gross receipts for the fiscal year ending September 30, 1880, were \$1,323,925.63, the expenses (including interest) \$948,772.86, and the net receipts \$375,152.77. Compared with the year 1880, the gross receipts of 1881 show an increase of \$95,387.33, with an increase in expenses (including interest) of \$103,849.43, making a decrease in the net receipts of \$8,462.-10. Compared in like manner with the year 1881, the gross receipts of 1882 show an increase of \$165,526.48, with an increase in expenses (including interest) of \$202,702.58, making the decrease in net receipts \$37,176.10. The taxes of 1880 were \$20,896 in excess of those of 1879; in 1881 they were \$8,588 in excess of those of 1880; and in 1882 \$4,381 in excess of 1881-making a total increase in taxes in three years of \$33,865.

Notes bearing seven per cent interest, due January 1 and July 1, 1881, for \$50,000 each, were renewed in that year for five years at four per cent interest; a note for \$100,000, due July 1, 1882, at seven per cent, has also been renewed at four per cent for five years from that date. The notes payable now stand as follows: \$100,-000, at 5 per cent, maturing January 1, 1883; \$60,000, at 5 per cent, July 1, 1884; \$100,000, at 4 per cent, Jan. 1 and July 1, 1886; \$100,000, at 4 per cent, July 1, 1887—total, \$360,000.

The report says that the increase in expenditures, which will naturally attract attention, has been chiefly due to more mileage, higher taxation, renewals, repairs and some additions to property, and then adds:

Taking advantage of larger receipts, many improvements heretofore delayed have been forwarded.

Small parcels of land have been purchased in Providence, Pawtucket, Readville, Roxbury and Boston. At Pawtucket, a freight house, greatly needed, and at Dedham a new passenger station and locomotive, house have been finished and occupied. An iron highway bridge has been built at Cauterbury street in Roxbury, rendered necessary by the extension of the third track. The heavy ledge of rocks near by has been removed.

Next year the third track will be completed from Mount Hope to Readville, and put in operation as soon as practicable. The main drawback to this undertaking is a highway bridge at Hyde Park, where we still await the action of the town and the Norfolk County Commissioners.

Electric signals have been operated with suc cess between Providence and Pawtucket, and additional electric warning-signals have been placed at different stations and crossings.

Forty freight cars of various descriptions, seven passenger cars and four locomotives have been bought, to which is to be added a small ownership in ten new Wagner sleeping and drawing-room cars.

At Boylston Station the road-bed has been made solid with the exception of a conduit for drainage

All the above improvements and additions to rolling-stock and property have been charged directly to expense account.

The main line is now entirely equipped with steel, and there are twelve miles of steel rails in the branches.

On the 18th of September last, a hearing was given to petitioners for lower fares between Boston and the surburban stations. This subject has been repeatedly under consideration. The directors have no doubt that some modification in rates should be made to certain points on and after the 1st of January next As yet no definite methods have been adopted

The terminal facilities of the railways which center in Providence have long been unequal to the travel and business of that constantly growing city. Early in May, 1881, this corpor ation, in connection with the Providence and Worcester Railroad Company, asked the City Government for a conditional grant of land with a view to obtaining better accommodations for other roads as well as their own. The result of our application was the appointment of a Commission consisting of influential citizens serving without pay to consider the whole matter and to present some comprehensive plan. This led to a report, extracts from which having especial relation to the interests of this road may be found in the appendix. A supplementary report is given in full. In the opinion of experts, the adoption of the original scheme of the Commissioners would have been attended by too great cost.

It is hoped that within a brief period the different roads interested will be able to agree upon such plans as will receive the approval of the Commissioners and be satisfactory to the City Government of Providence

The number of miles run by trains during the fiscal year ending September 30, 1882, were 888,707, against 865,216 in 1881, and 852,282 in

The whole number of passengers carried in 1882 was 4,128,299, against 3,802,405 in 1881, and 3,574,104 in 1880.

The number of passengers carried one mile in 1882 was 46,344,791, against 42,191,736 in 1881, and 42,990,453 in 1880.

The number of tons of freight moved in 1882 was 718,500, against 660,290 in 1881, and 669,468 in 1880.

Two dividends of four per cent each have been earned and declared in both the past and preceding years.

The dividends on investments in the Union Freight Railway and the preferred stock of the Providence, Warren and Bristol Railroad, have been credited to Interest Account.

TRIAL BALANCE	SEPTEMBER	30,
	1881.	1882.
Construction and equipment. Stoughton Branch Providence, Warren and Bris	85,400 o	
tol Railroad stock Union Freight Railroad Com	-	
Real estate		
Cash and cash funds Notes receivable	. 111,462 4	36,304 44
Materials on hand Balances due from other roads	144,814 5	
eto		7 119,584 56
Total	\$5,526,884 0	\$5.544,154 12
Capital stock	\$4,000,000 0	
Seven per cent bonds, due 189	3 500,000 0	
Notes payable	. 360,000 0	
Unpaid dividends		
Dividend due Nov. 1		
Balance due other roads, etc		
Profit and loss	. 430,551 6	2 440,066 19

Total, as above......\$5,526,884 of \$5,544,154 12 President.—HENRY A. WHITNEY.

Directors.-Henry A. Whitney, Thomas P. I. Goddard, J. Huntington Wolcott, William R. Robeson, Francis M. Weld, Joseph W. Balch, Royal C. Taft.

Treasurer. -B. B. Torrey. Gen'l Sup't .- A. A. Folsom.

In Philadelphia, on the 15th inst., Judge Biddle entered a nolle prosequi in the case of Dr. Mark Spicker, who attempted to recover damages from the Pennsylvania Railroad Co. for being ejected from a train while traveling from Harrisburg to Williamsport on the Northern Central Railway. Dr. Spicker was using an excursion ticket from Philadelphia, and after leaving Harrisburg the conductor refused to take it on the ground that the time for which it was good had expired. The ticket was not limited. The non-suit was entered because the ticket was issued by the Pennsylvania Railroad Company "on account of the Northern Central Railway Company," and expressly provided that the Pennsylvania Railroad Company assumed no responsibility beyond its own lines. The plaintiff's suit, it was held, should therefore be against the Northern Central Railway Company.

FORMAL invitations were forwarded from Vicksburg, Miss., on the 18th inst. by the National Cotton Planters' Association of America to the cities of New Orleans, Galveston, Mobile, Savannah, Charleston, Richmond, Augusta, Montgomery, Nashville, Memphis, Louisville, St. Louis, Cincinnati and Baltimore to compete for the location of the World's Cotton Centennial Exposition, to be held in 1884. It is contemplated to raise \$2,000,000 for this exposition, \$500,000 of which is expected from the city securing the location, which will be decided upon January 1, 1883, by the Executive Committee of the association.

PAT-"An' is it the next train for Boston ye want? Faith, that wint an hour ago, sorr."



PUBLISHED WEEKLY BY THE

AMERICAN RAILROAD JOURNAL CO., No. 284 Pearl Street, cor. Backman, New York.

> GEO. F. SWAIN, President. 8. PROCTOR THAYER, Vice-President. EDW. A. WRIGHT, Treasurer. CHAS. T. VALENTINE, Secretary.

#### JULIUS C. SHAILER,

GENERAL EASTERN AGENT, with Headquarters at Main Office.

MR. FREDERICK ALGAR, Nos. 11 and 12 Clements Lane, Lembard Street, London, E. C., England, is the authorized European Agent for the JOURNAL.

W. C. TYLEB, Boston Correspondent, No. 228 Washington Street.

JAMES J. WHITE, Canadian Correspondent, Ottawa, Canada. Mr. WHITE is authorized to receive subscriptions and advertisements for this paper throughout Canada.

#### Subscription Rates.

Subcription, per annum	\$3	00
six months	2	00
" three months	1	00
Foreign subscription per annum [in- cluding postage]	4	00
Foreign subscription, six months [including postage]		50 10

WE invite railroad officers to send us notice of elections, transfers, appointments, resignations, etc.; and all our readers would oblige us by furnishing for our columns any items of personal information, which may come to their knowledge, and are adapted to this department. We aim to record all new railway enterprises in the United States and Canada, and to note the progress of construction on all new roads and extensions; and we request all concerned in railway building to give us early information regarding the above, that our reports may be as complete as possible.

Subscribers are requested to report to our office any irregularity in receiving the JOURNAL.

Contributed articles relating to Bailroad matters generally, Mining interests, Banking and Financial items, Agricultural development, and Manufacturing news, by those who are familiar with these subjects, are especially desired.

Entered at the Post Office at New York City as Second-Class
Mail Matter.

New York, Saturday, November 25, 1882.

#### PRINCIPAL CONTENTS.

Incorporation	925
Personal	925
Organization	925
The Erie Canal Free from Tolls	926
Boston and Providence Railroad Report	
EDITORIAL:-	
The Elections and the Iron Industry	928
Railroad Medical Service	929
Hot Air Blast and Smoke Consuming Device for Lo-	
comotives	
The Krupp Works at Essen	931
Stock Exchanges and Money Market 932	934
The Coal Trade	934
Our Chicago Letter	940
The Canadian Canals	042
Our Canadian Letter	944
List of Patents for Inventions Relating to Railways,	
Manufacturing, Mining, Machinery, etc	948
Martin's Car-Coupler	948
Improved Street Car	948
Signaling by Electricity	948

## THE ELECTIONS AND THE IRON INDUSTRY.

THERE is perturbation among the iron furnaces and rolling-mills. The price of steel rails has declined to \$40 per ton, and great uncertainty hangs about the future of prices. This is due in part to the slackening of railroad construction; in part, also, to the belief that prices of material and labor have been too high for the last eighteen months; and in greater part to the anticipation that Congress at its next session will recast or seriously alter the existing tariff on importations. As we long ago foreshadowed, the steel rail combination has felt that the exorbitant duty of \$28 per ton on steel rails, and \$22.40 on iron rails, imposed for their benefit, could not much longer be maintained. No doubt before the elections they would have been willing to settle upon a tariff of one-half of these sums; now, however, it is doubtful if that much can be saved to incidental protection. The meaning of the vote recently cast is interpreted by both political parties to be: that taxes must be reduced-that the burdens imposed during the war shall no longer be kept up twenty years after the war has ceased, especially as its chief result is to swell the profits of certain industries which are now well able to stand alone, and to the purchase of the National debt at high rates of premium for the benefit of capitalists who are anything else than objects of Government bounty.

Both Republicans and Democrats will now make scrambling haste to obey the popular verdict; neither party deeming it prudent to be outbid by the other in the reduction of taxation. Mr. Kelley, the Chairman of the present Committee on Ways and Means, is early in the field with a proposition to sweep away the entire Internal Revenue imposts, amounting to more than \$150,000,000 a year. This represents about the amount of surplus which the Government has had for the last two or three years to expend in buying up bonds, and in improvements of rivers, harbors and public buildings. The Democrats, so far as can be discovered, are divided in councils as to whether the greater reduction shall be made from the duties on imports, or from the internal revenue taxes; ex-Speaker Randall, of Pennsylvania, like his colleague, Mr. Kelley, favoring the former, while Mr. CARLISLE, his western competitor, favors the latter. It is obvious that the intention of the protectionists in both parties is to sacrifice the moneys collected on liquors and tobacco rather than that the tariff shall be changed so as to injure their special branches of industry. The presumption is that the existing tariff will also be attacked.

Not the slightest attention will be paid by either party to the recommendations of the existing Special Commission. The voice of the people has superseded its mission.

If the Republicans are wise, in the evening of their day, they will offer a bill within the first week of the coming session proposing a horizontal reduction of the existing customs tariff of 10 per cent in the year 1883, and an additional 10 per cent in 1884, and so on until 50 per cent shall have been taken off. In this way the revenues from imports will be but slightly diminished, while the manufacturers will be let down without a sudden jar or shock, and in this way a monetary and commercial revulsion may be postponed or avoided. At the same time the minor items of internal taxes should be remitted altogether, retaining from fifty to sixty per cent of the present taxes on tobacco and distilled liquors, and allowing those on malt liquors to be abolished.

The steel rail combination, like the National banks, has nothing to expect from the Democratic party. It is not surprising, therefore, that some concert of action has already been had among them, and that they have resolved to either fill existing orders on half-time, or shut down their mills altogether.

The reports during the week are that large numbers of men will be thrown out of employment by the stoppage of rollin-gmills. This will be reflected back upon the furnaces and coal mines. In a measure the depression will affect the traffic of the railroads, especially those which have coal or iron industries along their lines, and thus extend to stock markets, and thence the alarm will spread all over the country. As a political demonstration, and a warning to the incoming and impetuous Democrats, this measure will have its weight. There are few orders in market for either pig iron or rails, and these few will be declined; the present quotations being merely nominal. Those who must have steel rails will be obliged to buy them on the other side, subject to the present high duty, or await the result of the struggle in Congress. The effect will be a comparative stagnation of the iron business. The railroad companies will be able to indemnify themselves somewhat for the loss occasioned by the stoppage of the iron works by the lower prices for which they will obtain their supplies -they being among the largest consumers of iron in one form or another.

The Democrats do not come into office until more than a year hence; and it is in the power of the Republicans, with their present majority, to adjust the tariff and internal taxes so that the will of the people shall be obeyed, the taxes reduced, and the surplus in the Treasury disappear, and at the same time no violent shock be given to all those branches of employment in which America necessarily competes with Europe.

#### RAILROAD MEDICAL SERVICE.

BY S. S. HERRICK, M. D.

SECRETARY OF BOARD OF HEALTH, STATE OF LOUISIANA.

Introduction.

Under the above title the writer purposes to give the readers of the American Railroad Journal a comprehensive view of what medical men are contributing in the operation of railways in Europe and the United States. It is not his intention to be limited to bare recital of methods in actual use, but the liberty of making occasional comments and suggestions will be claimed as appropriate to the subject and to the pages of the Journal so kindly offered to its consideration. It can not be alleged that the theme is hackneyed, and the writer trusts that its importance will be made so apparent as to excite interest for its intrinsic merits, if not for what he may be able to say himself.

In the infancy of American railroads, while they were few, short and nowhere distant from centers of population, it could not have been supposed that the companies would derive any advantage from permanent engagements with physicians; nor is it likely that such a want was then anticipated, any more than an occasion for undertaking the business of mining, manufacturing or the extensive planting of forest trees. The necessity for workshops and mechanics to make repairs on rolling-stock must have early led to the building of cars in the same shops, and the organization of this service on an extensive scale by the more important companies. In like manner, as lines lengthened and business increased, occasion for medical and surgical relief to passengers and employés multiplied, and the advantage of definite and permanent engagements with medical men became apparent.

It is evident that a strong corporation, well organized for a particular purpose, has facilities for undertaking new functions; and medical relief to employés, when they became numerous, would seem as natural a want as in a military establishment. But the actual outgrowth of railroad medical service in England and the United States has been governed by the apparent necessities of companies, to obviate the greater expense of employing medical men only when their services were indispensable, and at their own prices. In France and other countries of continental Europe, where railroads have always been more or less under direct government control, and where a paternal government assumes complete supervision of the conduct of its subjects, a well organized medical department has long existed on the more important roads.

The first, and for some time the only, occasions for the employment of medical men by railroad companies were in a surgical capacity, for the relief of those injured in accidents,

when it might be presumed that the companies would be held legally responsible for consequences. A service once organized for this purpose could be made available, without much, if any, additional expense to the company, for the relief of employés, and even their families, in ordinary sickness. The physical examination of employés follows later, and last of all hygienic measures for the prevention of disease. These come latest, not because of inferior importance, but because they are the highest development in the gradual evolution of medical science. As in law, until a recent period, the safety of society was supposed to rest on the penal code, so in medicine the cure of disease long filled the measure of its functions. Even in the last quarter of the nineteenth century the penitentiary and the pound of cure are weightier, if not higher, considerations with the mass of mankind in the most civilized nations than morality and hygiene.

In railways, as in other organized industries, the tendency is toward consolidation of ownership into large and strong corporations, operating extensive lines, employing large numbers of men in a variety of departments, each well defined and under separate superintendence, but all under one general control, with a general resemblance to the organization of an army. Thus we find a department of construction and repairs of road-bed, track, bridges, buildings, etc.; another of construction and repairs of rolling-stock; another of operation; another of accounts, with several sub-divisions; another of law, for a large corporation can never keep out of court; and, last in date, a medical department. This youngest child of the household, in America at least, is only here and there acknowledged as one of the family, and scarcely ventures yet to put in a claim to the inheritance. True, the family are all liable to get sick now and then; many are liable to get hurt quite suddenly; but the doctor is abroad and can generally be got, sooner or later. The chance doctor is very apt to find his experience with this family troublesome and unprofitable, for everybody knows that it is easier to cheat the doctor than anybody else. Poor rules sometimes work both ways, and poor pay is apt to run with poor physic, as it is sure to do with poor preaching.

Under the usual American management, occasionally some infirm fellow gets into the family—a man with bad eyes or unsoundness in some vital organ. Then he may be found out by a dreadful accident, or, if killed himself, never found out. A medical inspection would sift out such cases. The cost of the inspection is a sure thing: the average American prefers to gamble on the chances.

It is said, "They do things better in France." Let us see how it is in railway management.

[TO BE CONTINUED.]

THE Eric Canal was formally opened in 1825; it then carried a boat through with ninety barrels of flour; now nine hundred barrels are the regular cargo.

A NEWSPAPER need not be large or pretentious to make its advertising valuable. But it must be a paper that is read by its subscribers.

#### Housatonic Railroad.

THE enterprising and liberal spirit which the Housatonic Railroad Co. are showing in regard to accommodating their patrons and providing means to secure their comfort and safety, is proving not to have been illadvised, as is shown from the traffic report for the past year and in the popularity and the prosperous condition of the road. The passenger receipts of this road for the fiscal year ending Sept. 30, 1882 show not only a handsome increase over the receipts for the year ending Sept. 30, 1881, but were the heaviest in the history of the road, exceeding the corresponding period ending in 1874, which has stood the highest on the record previous to this year. Much of this flattering and prosperous condition of the passenger department is owing to the adoption by the management of the line of a liberal policy in regard to issuing round trip, excursion and mileage tickets at re. duced rates from former years, a judicious amount of advertising, which in the end always pays, and the sending out during two seasons past several editions of the valuable descriptive book, "Hills and Homes of Berkshire," thereby inviting strangers from the cities to visit the charming resorts on the line of the Housatonic road. The drawing-room cars run during the past summer between Pittsfield and New York have been a source of profit to the company as well as of great comfort to the traveling public.

The attractions which the management have added to the road in the way of improved rolling-stock, and time-tables arranged to accommodate the summer patrons as well as the local and through traffic, have evidently been adopted to good advantage. An extension of the Housatonic road further into Massachusetts is wanted by the region through which it would probably pass, and it would seem that the present popularity it enjoys with its patrons, and the inducements held out by a connection with the great Hoosac Tunnel route and local development, would be strong influences in getting the work of extension speedily under way.

THE Chicago, Burlington and Quincy Railroad Company has recently substituted for its stock of local tickets at the Chicago depot a ticket printing and registering machine, which prints the tickets from card-board as wanted. It consists of a small rotary press, which fills in the date and destination of tickets and registers the same on a consecutively numbered report blank, so that the agent in making out his report of sales has only to cut off the report stub and foot up the amount. The tickets used are in rolls of 1,000 each, printed in two colors and consecutively numbered. The destination is filled in by means of changeable dies. A single motion of the lever inks the type, dates and fills in the destination of the ticket, registers date and amount, and separates the ticket and a duplicate stub from the roll of tickets. The new contrivance is made to take the place at the Union depot in Chicago of a stock of four hundred different kinds of tick-This new ticket register is to be introduced into all of the principal stations of the Burlington road, three hundred being already in use by that line.

Hot Air Blast and Smoke Consuming Device for Locomotives-Patented September 12, 1882.

EDITOR AMERICAN RAILROAD JOURNAL:

DEAR SIR:-The improvements in the stationary steam-engine, both land and marine, of late years have been both numerous and great, and most of these improvements have been made with one object in view, viz., economy of fuel. So great have been these improvements, that our Atlantic steamships can cross the ocean with fifty per cent less fuel than they could thirty years ago. But when we look at the locomotive do we see the same advancement? No: we see just the same engine she was fifty years ago, when George Stephenson opened the Liverpool and Manchester Railway. There has been only one improvement worthy of note since that time; that is the link-motion, and the old gentleman was himself the inventor. (Of course I am speaking of fuel-saving improvements only.)

There are very few persons except railroad men who are aware of the vast amount of heat that goes to waste through the smoke-stack of a locomotive. And of these there are not many who realize what a great saving of fuel might be made by the introduction of hot air instead of cold air into a furnace. It is within the memory of the writer that the smelting of iron ore was all done with cold air, and then the output would be from seventy to one hundred tons per week. Now since the introduction of hot hot air one thousand tons is no uncommon thing, and that too with but very little more fuel than it would take for one hundred tons before. Now to utilize the waste heat of a locomotive is the object of this invention.

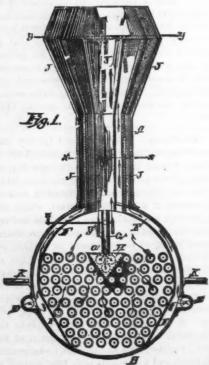
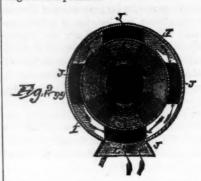


Fig. 1 is a transverse section. Fig. 2 is a top view of the smoke-stack. Fig. 3 is a horizontal section of the waist of the stack. Fig. 4 is a longitudinal vertical section. Fig. 5 is a view of the rear of the fire-box above and below the foot-board.

As there are more reference letters in the engravings than need explaining we will refer to those only which are essential to its working. It must be remembered that the smoke-stack needs to be modified somewhat; it must be at least two and a half inches wider than at present, so as to make room to get in all the heating surface possible.



In Fig. 2 there is a circular passage three inches wide by ten inches deep, projecting through the stack, forming the inlet opening L. JJJJ are air passages, three inches by ten inches, tapering down to one and one-half by eight inches down to base of stack. In the smoke-box are two half circle pipes, FF, one next the tube sheet, the other next to the front of smoke-box, which is not seen.

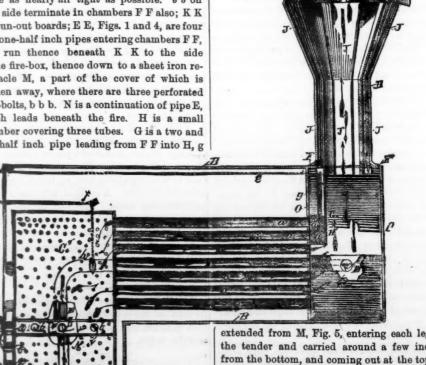


Front and rear pipes J J terminate in pipes F F. Pipes F F terminate in chambers F F. Chambers F F are formed by two plates fitted close to tube sheet and front of smoke-box, made as nearly air tight as possible. J J on each side terminate in chambers F F also; K K are run-out boards; E E, Figs. 1 and 4, are four and one-half inch pipes entering chambers F F. and run thence beneath K K to the side of the fire-box, thence down to a sheet iron receptacle M, a part of the cover of which is broken away, where there are three perforated stay-bolts, b b b. N is a continuation of pipe E, which leads beneath the fire. H is a small chamber covering three tubes. G is a two and one-half inch pipe leading from F F into H, g

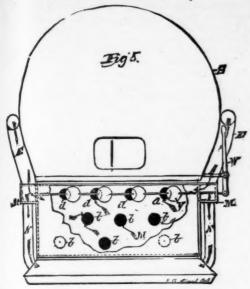
is a damper in said pipe, h is a damper in pipe E. Perforations b b b b, Figs. 4 and 5, lead into the fire; d d d lead above the fire, with slide V and lever W to regulate the blast. Now when the engine is in motion, the air entering L passes around and down J J J, down through F F, down into the chambers F F. thence through pipes E E into M, Figs. 4 and 5, which I will call a jacket.

Now if there was nothing to be gained but the heat of the exhaust steam, which cannot be less than 250 deg., it would pay for the improvement. But when we take into consideration the heat of the gases as they enter the stack, what must be the temperature of that heat? Certainly not less than 600 deg. when an engine is running from twenty to forty miles per hour. Now you can imagine the effect of such a large volume of heated air entering the furnace below the fire, through the fire and above the fire, d d d. Fig. 5, and H, Figs. 1 and 4, are intended to be operated when putting on a fresh fire. It matters not how much steam a boiler may generate; if it is allowed to blow off into the atmosphere, there can be no saving of fuel. The next thing to do therefore is to enlarge the exhaust, and in this case it can be enlarged to nearly double its present size, and by so doing there will be no need of spark arresters, deflectors, etc., for there will be no cinders of any account to set fire to woodland and prairie. Mr. Editor, when I go out on a calm morning and hear an engine exhaust two or three miles distant, it brings to my mind the saying of "Poor Richard" when he said, "Gentlemen, you are paying too much for your whistle.".

There is more which this device will accomplish; a two and one-half inch pipe can be



extended from M, Fig. 5, entering each leg of the tender and carried around a few inches from the bottom, and coming out at the top of the opposite leg, and by so doing feed-water can be had of any desired temperature at all times, except when taking in a fresh supply, Now, sir, if there were no other merit but this to recommend it, this would be sufficient for its adoption.



But this is not all: this device can be extended through every coach in a passenger train, and with proper radiators will heat every coach better than any stove possibly can do, and at the same time be very much more safe; there being no danger of cars taking fire in case of an accident, thus avoiding the possibility of human beings being roasted to death. Of course, I don't wish to be understood as saying that this invention will save from twenty to thirty per cent of fuel and heat a whole train of cars at the same time; that would be asking too much. I am perfectly well aware that theory very often fails when put into practice, but this theory-if theory it be-is based upon common sense and upon scientific principles.

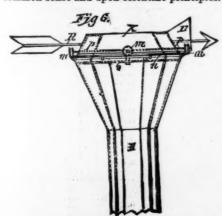


Fig. 6 is a double stack from top to bottom, with the same taper at the top as the other, say three inches tapering down to three-quarters, or one inch in the waist; that is, the inside lining will be as much smaller at base of stack. The rear and front are closed and the air goes down the sides into chambers F F, the same as the others. There are six inches of the cone of the outside stack cut away all around it. X is a circular slide or cover, with inlet-opening L cut out of it, with wheels m m m m fastened on to it, which slide with wheels run on track n n n n, thereby keeping inlet L to the wind at all imes, for switch-engines or others.

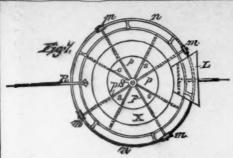


Fig. 7 is a top view of same, which explains itself. Now, sir, I am afraid to say more, for fear you may get your "back up" and consign this to the waste-backet never to see daylight, and send me off to the "devil" for better "copy." However, I must inform you that I have been laboring under a severe attack of "hot air fever," and that I never "pulled the lever" of this machine in a public capacity before, so that I trust you will be pleased to deal very leniently with me.

Yours truly,

JOHN CAMPBELL, SR.

BAY VIEW, WIS.

P. S.—For further information interested parties may address as above.

#### The Krupp Works at Essen.

THE firm of Friedrich Krupp owns near Essen 3,250 good and healthy lodgings for families, inhabited by about 16,000 people. The various colonies are transversed by wide streets, lighted by gas, and are supplied with good and sufficient water by the aqueduct of the factory. The annual rent for family lodgings of from two to four pieces (besides cellar and attic accommodation) varies from 66 to 180 marks. Single workmen can find board and lodging at a large boarding-house, capable of holding 1,800, at 80 pfennige (20c. United States currency) a man a day. For more experienced and better paid men a special boarding establishment has been put up, at which they can live for 1 mark 10 pfennige (27) cents United States currency) per head and day. There are 150 lodgings set aside for the foremen and officials of the factory. There is also a common bakery, which turns out annually 130 tons of white and 2,100 tons of black bread; a butchery, furnishing the meat for the work-people from 450 pieces of large cattle and 1,500 smaller animals per annum; besides shops of every description, a selters-water manufactory, a tavern called the "Essener Hof," seven beersaloons with billiards, bowling-alleys, etc. The colony of Kronenberg has a daily market. The trading-places, shops, etc. give employment to 270 persons, and their annual transactions amount to 2,250,000 marks, all the sales being "cash." On principle, no profits are to be made, and thus far subsidies have been required every year, the management of the shops, etc. not being an association on the part of the workmen, but an undertaking on that of the firm, and conducted on its account for the benefit of the work-people. The cast-steel factory has a hospital, a house for contagious diseases and a bath-house. Special care is taken of the schools. School-houses, with twenty airy school-rooms, are placed at the disposal of

colony Altendorf; Kronenberg and Schederhof have a private school, conducted by one rector, eight male and four female teachers, besides two assistants. The pupils number about 1,000. For instruction in feminine handiwork there are two industrial schools, one for adults, the other for schoolgirls; the former under the direction of an inspectress and eight female teachers to upwards of 700 pupils; the latter conducted by twelve female teachers, one-half of whom are widows of former workmen.—

Stahl und Eisen.

#### Overworking Boilers.

Doubtless much of the mystery of boiler explosions could be traced to the above-mentioned practice of over-weighting, a practice criminal in its nature and inexcusable on any grounds whatever. If the manufacturer needs more steam, let him get more boilers in which he can safely make the desired quantity of steam. To additionally load the safety-valve is to test every part of the boiler beyond the safety point, and if an explosion does not result it is not the fault of the criminally careless engineer, or his principal, the manufacturer. It is the height of foolhardiness to risk the lives of those engaged in the works or in the vicinity of the boiler, and to risk the liability of destruction of the buildings adjacent, simply that a few dollars may be saved or that a little more steam could be supplied than the safety limit in the boiler would permit. Some have the foolish idea that because a boiler has done good service for a number of years, it can be relied upon to perform duty beyond that prescribed by the rules of safety. They reason that because it has never exploded, therefore it never will. But frequent explosions reported within the past few years should demonstrate that this view is erroneous. A due regard for the rights of others should deter a manufacturer from overworking his boiler, for, should an explosion occur, the lives and property of individuals residing in the vicinity will be imperilled. If the boiler is insured, then certainly such treatment of it as we have mentioned is a fraud upon the insurance company. But even were there no outside considerations, self-interest alone should teach the owners the impolicy of working their boilers beyond a safe pressure.-

ACCORDING to the Official Gazette of the United States Patent Office there were issued in the six months ending June 30, 1882, no less than 161 patents for car-couplers for railroad use, and in the batch of patents announced as allowed on the 7th of November-the crop of one week-there were twenty-two more carcouplers, and it wasn't a particularly good week for car-couplers either. To the observer of these Patent Office reports the multifariousness of car-couplers becomes a cause of hideous fascination and ever-increasing wonder. How so many ways of attaching two objects together can be contrived will probably never be known to anybody but the Patent Commissioners. Perhaps, if the truth were known, there are a thousand or more car-coupler patents, all exactly alike, and when the 1,001st comes in, just like all the others, the maddened Commission ers shut their eyes and sigh, "Allowed," on general principles.

## THE STOCK EXCHANGES AND MONEY MARKET.

New	York	Stock	Exchange	В.

New York Stock Exchange.							
Closing Prices for the week ending Nov. 22.							
Adama Evaposa	h.16. F	.17. Ba	t.18. N	1.20.T	1.21. W	.22.	
Adams Express Albany and Susq	X	31 .		I	31 .		
tat mortgage							
2d mortgage	104% .		orl	**** *		****	
American Express Burl., C. B. & Nor		go	9578 .		94 ·		
ist mortgage 58.	OI .	I	02 .		I	02	
Canada Southern st mortgage guar	70%	69%	68%	663	64%	67	
Central of N. Jersey	70%	68%	68	65%	65%	66%	
1st mort. 1890							
78, consol. ass 78, convertible ass.	108%				07%	03	
78, Income		85				04	
Adjustment	8.	88%	88	36%	84%	85%	
Gentral Pacific 68, gold sst M. (San Joaq)	115	115	114	1	1144		
ist M. (Cal. & Or.)	105%				104%		
Land grant 6s					104		
Jhesapeake & Ohio.	24 %	24%	24%	24	23 1/2 30 1/4	22%	
ad pref	26	33	25%	25	25		
ist mort., series B							
Uhicago and Alton. Preferred				140	134%		
sinking Fund							
					125		
Chi., Bur. & Quincy 78, Consol. 1903		129		128			
Chi., Mil. & St. Paul Preferred	108%	107%	107	103%	101%	103%	
ist mortgage, cs.				133			
2d mort., 7 3-108.	*****	130				120	
IST M. (La. C. GIV)							
rst M. I. & M. div.) rst.M. (I. & D. ext.)						*****	
rst M. (H.&D. div.)						119	
consolidated S. F.	*****	*** *	125	125			
		139	140	134%			
Ohi. & Northwestern Preferred 1st mortgage	159%	159	1581/4	155	152 1/2		
Sinking Fund 6s.				****		*****	
Consolidated 78 Consol. Gold bo'ds	*** *	****	197		:06V	708	
Do. reg						127	
Chi., R. Isl. & Pac. 68, 1917, 0	129	12736	1281/4	126	125%	125%	
Clev.,Col.,Cin.&Ind.	Sr.	82	80	75	7.136	74	
ıst mortgage							
Clev. & Pittsburg gr. 78, Consolidated.			****	*****	****	139	
4th mortgage	12478					*****	
Col., Chi., & Ind. Ceni	63	614	6	5%	5%	5%	
2d mortgage							
Del. & Hud Canal. Reg. 78, 1891	113	111%	III	108%	107%	1081/2	
Reg. 78, 1891	115%	****	116		*****	*****	
Reg. 78, 1884		****	103/8				
Del.,Lack.& Western	132%	130%	128%	124%	125%	127%	
2d mortgage 78 Consol. 1907				130	****		
Erie Railway	***						
1st mortgage 2d mort. 5s, ext	****	****	****	****			
3d mortgage							
4th mort. 5s, ext.							
5th mortgage 7s, Consol. gold	****		125%	136			
dreat West, 1st mort sd mortgage							
Hannibal & St. Jo							
Preferred	801/		82	80	79		
8s, Convertible Houston & Tex. Cen							
ist mortgage	,,,,			. /5			
2d mortgage							
Illinois Central LakeShore&MichSo							
Consol. 78							
Consol. 78, reg						125	
ed Consolidated Leh. & W. B. con.ass							
Long Dock bonds							
Louisville & Nash.	51%	51%	52	51%	50%	51%	
78, Consolidated.	****	115%	115%	****	115%		
Manhattan			85		85	44 85	
Met. Elevated		*****	86		8534	*****	
Met. Elevated  1st mortgage  Michigan Central  78, 1902	100,4	****	100%	100%	100%		
78, 1909	101%	100%	100	95	90%	97%	
Morris & Essex				124%		*****	
ıst mertgage	*****	*****	134	*****	*****	****	

	- 1
78 Of 1871	
78, Consolidated	
N.Y. Oen. & Hud. B. 131 14 130 130 130 128 126% 1	
68 N. F. 1882	20
68, S. F. 1883 100 100% 68, S. F., 1887	
rst mortgage 133	
ist mortgage, reg	
N. Y. Elevated	
	15%
N V to Wanter	-
- at months as	
ist mortgage, reg	
N. Y. Lake Erie & W 38 % 38 % 38 % 36 % 34 % Preferred 82 % 85 84 % 82 % 81 %	36
Preferred 82 % 85 84 82 8 81 %	80%
Preferred 82 1/2 85 84 82 1/2 82 1/2 2d Consolidated 99 1/2 99 98 1/2	99
New 2d 58 fund 97%	
N T N Walland A. W 1	
Northern Pacific 45 45% 45% 44% 43	44%
Preterred 92% 94% 94% 93% 92%	94%
Ohio & Mississippi. 22% 24% 24% 22 22	32%
Preferred	
2d mortgage 121	120%
Consolidated 78	*****
Consol. S. Fund. 1171/2	117
	351/4
Pacific B. B. of Mo	
ıst mortgage	105%
2d mortgage 1111/4	111
Panama	
ma 11 a m ni	501/4
Pitts, Ft. W. & Chi.gtd 133 1/4 132 1/4	
18t mortgage 138 137 133½ 132½	
18t mortgage 138 137 2d mortgage	
3d mortgage 128	
Pullman Palace Car 125 125 121 122	
	124
Quicksil'r Min'g Co 934	
Preferred	43
8t. Louis & San Fran 36 33	32 1/4
8t. Louis & San Fran 36 33 Preferred 54 4 54 1st Preferred 96	53%
18t Freierred 90	****
St. L., Alt'n & T. H 40% 46% 44%	43 84
Preferred 80% 90% 90 88	84
2d mort, pref	
	****
St. L., Iron Mt.& S.	
	*****
Toledo and Wabash	****
ast mortgage	
2d mortgage 7s, Consolidated	
78, Consolidated	*****
Union Pacific	
Union Pacific 107¼ 107 106% 105% 104% 18t mortgage	105%
Land Grant 78 110 115 115 115	110%
20010 01000 /0111 110/8 11111 11111 11111	117 1/2
United States Ex	6
United States Ex	04
Wabash, St. L.& Pac 33% 33 33% 30% 30%	30%
Wabash, St. L. & Pac 33% 33 33% 30% 30% Preferred 59% 58% 58% 57 54 New mort. 78.	55%
New mort. 78	****
Wells-Fargo Ex 129 130	
Western Pacific b'ds 112	
Western Union Tel. 82% 82% 82 81% 80%	
78 S.F conv., 1900	/8
FEDERAL STOCKS :-	
U. S. 48, 1907, Peg	110
U. S. 48, 1907, reg	
U. S. 41/8, 1891, reg 1121/2 1121/2	11236
U.S. 4 1/8, 1891, coup 1131/6	113
U. S. 58, cont'dat3% 102%	
U. S. 38, reg 102 101 101	
Dt. of Col. 3-658, reg	
U. S. 4%8, 1891, reoup 113% 112% 113 U. S. 4%8, 1891, coup 113% 113 U. S. 58, cont'd at3% 102% 113 U. S. 38, reg 102 101% 102 Dt. of Col. 3-658, reg 10t. of Col. 3-658, coup	*****
-	
Boston Stock Exchange.	
Closing Prices for the Week Ending Nov. 22.	
Th. 16.F. 17.Sat. 18.M.20.Tu.21	W.22

Dogodi	200	O41. 34	HOLL	orrib or		
Closing Prices	for the	e Week	Endi	ng No	0. 22.	
	Th. 16	F. 17.8	at.18.	M.20.7	.u.21.	W.22
Atch., Top.&San.Fe.	8416	843%	843%	8434	83%	82%
ist mortgage	118%	118%	118%	118%		118%
Land Grant 78						
Boston & Albany						
Boston and Lowell.				981/4		
Boston & Maine		151				
Boston& Providence					160%	
Bos'n, Hart. & Erie78	49				461/4	
Burl.& Mo.R.L.G.78			115%		115%	
Burl.& Mo.R.in Neb						
6s, exempt			1121/4			
48						
Chi., Burl. & Quincy	129%	130	130	128%	125%	125%
Cin.,Sand&Clev(\$50)		28%				
Concord (\$50)						
Connecticut River.						
Eastern New 6s, Bonds	109%	110		109%	108%	1081

132	132		132	132	
49	4834	4816		16	4436
				116	115%
	160				
		112%	*****		
			125		
107	107 16	107%	106%	105	105
110					
250			250	25016	24014
6736	6+34	60	-30	66	64%
	137 1/4	49 48¾ 160 137¼ 107 107½ 116	49 48¼ 48¼ 160 137¼ 137½ 112½ 107 107½ 107½ 116	49 48½ 48½  160  137½ 137½ 138  112½  107 107½ 107¾ 106½  116	192 132 132 132 49 48¼ 48½ 46 160 160 137½ 138 12½ 12½ 125 107½ 106¾ 105 116 125 125 125 125 166

#### Philadelphia Stock Exchange.

Finiadelph	LEL C	tock	Lix	cnan	ge.	
Closing Prices for	or the	Week	Endis	a Non	27	
	W.15	.Th.16.	F.17.8	at.18.1	M.20.T	U 21
Allegh'y Val. 7 3-108						
78, Income	49%			49%	49	
Bun., Pitts & West.	19%		19%	19%	18	16
Camd'n & Am. 6s, '83						
68, 1889						*****
MOPL 08, 1889 1	112		112	112		
Camden & Atlantic. Preferred 1st mortgage						
Preferred						
1st mortgage						
2d mortgage						
Catawissa Preferred 2d pref 7s, new						
Preferred	5436				53%	5336
2d pref		52%				
78, new				****		****
Del. & Bound Brook						
78						
Elmira&Williamsp't						
Preferred						
Hunt. & B. Top Mt.		17			16%	
Hunt. & B. Top Mt. Preferred		421/4				
an morellesson				4416		
Lehigh Navigation.	42	42%	42	4116	40%	38%
08, 1884				103	103.56	
Gold Loan	112			112%		
Railroad Loan Conv. Gold Loan .				115		
Consol. Mort, 78.						108
Lehigh Valley					*****	
1st mort. 6s, coup	65%	65%			64 1/8	64
ist mort. 6s, reg			****	*****		****
2d mort, 78		12236	*****	*****	****	*****
2d mort. 78 Consol mort. 6s		-3-76			*****	
Consol.mtg.6s,reg			12216			rio ka
Little Schaylkill						-9.2-
Minehill&Sch.Hav'n			603/	6-3/		
Manth Danasalasa i			02 78			
North Pennsylvania	****	****		64%		64
ist mortgage 6s	• • • •					
2d mortgage 7s Genl. mtg.7s,coup				****	****	****
Genl. mtg. 78, reg						
Northern Central						
58	57		56%			
			*****	*****	*****	****
Northern Pacific	91%	45	45%	45%	44%	43 4
Preferred Pennsylvania R. R.	60	92% 60	94% 60%	94%	93 %	92%
ist mortgage					59%	5734
Gen'l mort						125
Gen'l mort reg						125
Consol, mort. 6s.						
Consol. mort. 6s. Consol. mort. reg						119%
Pa. State 58, new		1181				
Pa. State 58, new do 48, new do 31/48, 1912						
do 31/8, 1912						
Phila, & Reading	28 %	28%	2834	27	2516	243/
ıst mortgage 6s						-4/8
rst mortgage 6s 7s of 1893 7s, new convert Consol. mort. 7s Consol. mort. reg.				11814		
75, new convert			69%	70		
Consol. mort. 78					126%	
Gen'l mort. 6s Def.Income bonds	942	94%	94%	94%	94	93%
Dhiladalahia b F	*****	*****	*****	****		
Philadelphia & Erie	31 %	21 %	21	31	****	
1st mortgage 5s 2d mortgage 7s	102%		****	*****	*****	
Distant Com Los T	****		*****		*****	
Pittsb.,Cin.&St.L.78						
Pitts., Tit. & Buff. 78,					****	
Schuylkill Navi't'n. Preferred						
Preferred		12	12			
68, 1897						
68, 1897 68, 1907	****	. 89		89%		
United Co. of N. J	190			190	****	189
Hestonville, (Horse)						
Chestnut& Walnut).						
			****			

## Baltimore Stock Exchange. Closing Prices for the Week Ending Nov. 21.

W.15	.Th. 16	.F.17.	Sat. 18.	M.20.	Fu.21.
193	****				
				48	
			127%		
				127%	127%
101%		100%		100%	99%
	56%	5634	561/4	56	55%
56%					
116%				****	****
					****
		122			
	50%	60	61%	61%	60 1/4
66	òò		67 36		
		44%	45	44	43%
					****
1	****		***	****	
	193	193 103 101½ 56½ 116½	193 108 100% 56% 56% 122 59% 60 66 66 66 44%	193	W.5.Th.16.F.17.Sat.18.M.20.*  193  103  127½  101½  100½  10

#### London Stock Exchange.

	-	Closing Pric			
	Nov	7. 3.	Oct.	27.	
Baltimore and Ohio 58, 1927	.308	110	108	110	
Central of N. J., \$100 shares	. 80	85	80	85	
Do. consol. mort	··IIO	113	110	112	
Do. Income Bonds	. 88	92	88	92	
Central Pacific of Cal., \$100 shs.	- 93	94	93%	9436	
Do. 1st mort. 6s, 1895-'98	117	119	117	119	
Det., G'd Haven & Mil. Equip bd	8.116	118	116	118	
Do.Con.M.5p.c., till'83 after 6p.	C.114	116	114	116	
Illinois Central \$100 shares	.154	155	152	154	
Do. S. F. 58, 1903	.104	106	104	106	
Lehigh Valley Cons. mort. 1923.	115	119	115	119	
Louisville and Nashville mort.	8 92	94	93	95	
Do. capital stock \$100 shares.	- 53	55	57	59	
N. Y. Cen. & Hud. R. mort. bond	8.132	136	132	136	
Do. \$100 shares	.136	137	137	138	
Do. mort. bonds (stg.)	.122	124	122	124	
N. Y. Lake Erie & West. \$100 sh	8. 4134	12	43	43%	
Do. 6 p. c, pref. \$100 shares	. 87	89	88	go	
Do. 1st Con. Mort. bonds (Eric	1.127	130	127	130	
Do. do. Funded Coupon bonds	1.124	127	124	127	
Do. 2d Consol. Mort. bonds	. 101	103	102	104	
Do. do. Funded Coupon bonds		101	99	101	
N. Y., Pa. & Ohio 1st mort. bonds	. 46%	4736	59	60	
Do. Prior Lien bonds (sterling	. 100	105	100	105	
Pennsylvania \$50 shares	. 65	651/2	65%	6614	
General Mortgage	.123	124	122	124	
Phil. & Erie Gen. mort. 68, 1020.		119	117	DIE	
Philadelphia & Reading \$50 shs.	. 30 1/2	31	3136	33	
General Consol Mortgage	.117	119	116	118	
Do. Improvement Mortgage	.103	105	102	104	
Do. Gen. Mtg. '74, ex-def'd coup	. 97	99	97	99	
St. L. Bridge 1st mort, gold bond	.121	123	131	123	
Do. 18t. pref. stock	- 94	98	94	98	
S. P'fic of Cal., 1st mort 68, 1905-6	.107	108	106	108	
Union Pacific 1st mtg. 6s, 1896-9	.117	119	117	119	
Wabash, St. L. & P. \$100 shares.	. 22	34	33	35	
Do. \$100 pref shares	. 50 %	60%	60%	6134	
Do. gen. mort. bonds	. 84	85	95	87	

#### AMERICAN RAILROAD JOURNAL

#### Financial and Commercial Review.

Thursday Evening, November 23, 1882.

Ten per cent was the ruling rate for Stock Exchange borrowers this morning. Time loans were 6 per cent, and prime mercantile paper 6@8'per cent. In the afternoon the rate for money on stocks was 10@12 per cent, but at the close 6@7 per cent. The highest rate was 20 per cent.

Bankers' bi'ls were quoted at 4.79%@4.80 for long, 4.83%@4.84 for demand, and 4.84%@4.85 for cable transfers. Commercial bills were at 4.78@4.78%. Francs sold at 5.24%@5.23% and 5.21%@5.20%, Reichmarks at 94%@94% and 95%@95%, and Guilders at 39%@40.

The gross receipts of the Philadelphia and Reading Railroad Company for the month of October, were \$2,229, 512,92, the expenses \$1,105,961.47, and the net earnings \$1,123,551.45; the gross receipts of the Coal and Iron Company were \$1,592,217,47, the expenses \$1,444,268.04, and the net earnings \$147,049.43—the total earnings of both companies being \$4,821,730.39, the total expenses \$2,550,229.51, and the net earnings \$1,271,500.88; an increase of \$229,235.10 as compared with the corresponding month last year. The total net earnings of both com-

panies for the year to date were \$4,651,553.16, being an increase, as compared with the corresponding period of last year, of \$565,610.32. The coal tonnage of the company for the year to date is \$,076,802 tons, an increase of 366,704 as compared with the corresponding period last year.

At a meeting of the directors of the New York, Lake Erie and Western Railroad Company, held on the 16th inst., President Jewett submitted a brief statement, outlining the coming annual report, showing the results of the road's operation for the year ending September 30, 1882. The statement placed the gross earnings of the company from traffic at \$19,975,773.81, a decrease of \$739,831.37 as compared with the year ending September 30, 1881. The operating expenses amounted to \$13,088,-093.74, a decrease of \$168,136.32, making the net earnings from traffle \$6,887.680.07, a decrease of \$571,695.05. The percentage of operating expenses to gross traffic earnings was 65%, an increase of 1%. The earnings from all sources other than traffic aggregated \$780,655.02, a de" crease of \$63,650.94, the total earnings from traffic and these other sources being \$20,756,428.83, a decrease of \$803.482.31. The surplus earnings for the year amounted to \$1,166,642.02, a decrease of \$720,775.72. The total number of tons transported during the year was 11,895,-238, an increase of 808,415 over the previous year.

The report of the Register of the Treasury at Washington for the fiscal year ended June 30, 1882, shows the receipts of the Government (exclusive of public debt) to have been, in round numbers, \$403,000,000, and the expenditures (exclusive of redemption of public debt) \$258,000,000. The total number of coupon and registered bonds issued was 104,346, amounting to \$478,827,150. The number of coupon and registered bonds canceled was 303,903, amounting to \$650,027,400. The number of interest checks registered after payment was 155,013. The number of paid coupons registered was over 3,000, oco, and the number of coupon bonds examined, registered, and scheduled over 100,000. More than 50,000 warrants and 33,000 drafts were registered; over 14,000 certificates for the settlement of accounts furnished to the accounting officers, and over 24,000 accounts received and filed. Seventeen million one hundred and twenty-four thousand one hundred and ninety-six legal tender notes, representing \$78,077,301, were counted, ex\_ amined, and sent to the committee for destruction; also 237,210 fractional currency notes, amounting to \$51.621; 465,680 silver certificates, for \$921,175, and 21,880 refunding certificates, amounting to \$218,300, were redeemed. The total tonnage of the country having documents outstanding at the close of the fiscal year is shown to have been 4,165,933 tons, in 24,368 vessels. The number of

vessels built was 1,371; tonnage, 282,270 tons.

The Attorney General of the State of New York has rendered an opinion that parsonages, even though they be on the same lot with churches, are liable to be taxed if the parsonages are owned by the church trustees or corporations. It is held that the section of law referring to the exemption of clergymen does not apply to parsonages owned by the church trustees or corporations.

The Committee on Ways and Means met in Washington on the 21st inst., and adjourned until the 5th of De. cember; it being decided by them that nothing could be accomplished until the Reports of the Tariff Commission, and the Treasury Department were in hand. W. D. Kelley, Chairman of the Committee, it is stated, exs himself on all occasions as being in favor of abolishing all internal revenue taxes, A prominent member of the Committee from the West is reported to have said that, while it would be impossible to anticipate the action of the Committee, it might safely be said that there is a feeling among its members in favor of reducing the taxes as much as may be done having due regard to the necessities of the Government for current expenses, for the sinking fund and for the interest on the public debt. Whether or not this reduction of internal taxes to the lowest possible figure compatible with these necessities would make tobacco free and leave the tax on whiskey alone, or take it off whi key as we'l, mak. ing a clean sweep, as desired by Mr. Kelley, he could not He recalled the Revenue bill of the last session which passed the House and which contemplated a reduction in the revenues of \$23,000,000. This took the tax off everything but tobacco and whiskey, and it is now generally admitted that a greater reduction than \$23,-000,000 is demanded by considerations of public welfare and may safely be made. The members of the Committee present at the meeting are all pronounced protectionists, and the gentleman interrogated was careful to confine himself to the general question of agreement on such reduction as the condition of the Treasury would warrant. It is a fair conclusion from his remarks that the Committee will favor the entire removal of taxes from everything except tobacco and whiskey and a reduction of the taxes on those articles.

At Montreal on the 18th inst. sterling exchange stood at 208%, At Toronto stocks were quite, but prices firm, a few sales were made with an advance over Friday's. There were no sales of Montreal, Ontario or Merchants, but Ontario bids advanced % and Toronto 1, Merchants weakening % more on account of its rapid advance than anything else.

At a meeting of the shareholders of the Bank of Nova Scotia, held November 18th, a resolution authorizing the directors to amalgamate with the Union Bank of Prince Edwards Island, and to increase the capital to \$250,000 for carrying on the purposes of the amalgamation, was passed.

On Tuesday, November 21st, the Montreal Stock Market was steady at Saturday's closing prices.

On the 16th inst. the Montreal stock market was stronger than for some days previous. Montreal sold 1 better and advanced to 202 %. Ontario 1 better,

On the 18th inst. Montreal offered at 203 %, with 203 % bid—a slight advance by buyers.

The following were the closing quotations on the Toronto Stock Exchange Nov. 18:

	Noon.			
Banks. Montreal		Bid 203 % 118 %		
Toronto Merchants, ex-div Commerce	124%	174 1243 137		
Imperial Federal Dominion Standard	156 201	140 155% 200%		
MISCELLANEOUS.				
Western Assurance		1623		
Dominion Telegraph Northwest Land Co Ontario and Qu'Appelle	50 AB	583/61		
LOAN COMPANIES.				
Canada Permanent	195 132 108	230 131 k		
Imperial Savings Farmers' Loan L. & C. L. & A National Investment	127 1/2	134 1/2		
People's Loan	125	1171		
Huron and Erie  Dominion Sav. & Loan  Canada Sav. & Loan  Ontario Investment	1311/4			
Farmers & Traders Loan	110	136		

SALES.—Commerce to at 136%, 20 at 136%, 70 at 137. Imperial, 10 at 140. Federal, 10 at 156, 10 at 155%. Standard, 100 at 115%, 20 at 115%. Consumers' Gas, 30, 72 at 148%. B. & Loan Association, 50 at 106. Lon. & Can. L. & A., 200, 50 at 134%. Real Estate, Loan and Debenture Company, 10, 2 at 97.

The Canadian Pacific Railway Company has placed on the market, free of settlement and cultivation duties, all the odd numbered sections allotted to them under their contract west of the river between the twenty-four-mile limit on the main line and the international boundary as far as the western boundary of the old province, and west of the boundary between the main line and the belt line for a distance of twenty-one miles comprising altogether 2,500,000 acres. The prices range from \$4 to \$10.

The gross earnings of the Petersburg Railroad (Petersburg, Va., to Weldon, N. C., 64 miles) for the year ending September 30, 1882, were \$298,543.63, the current expenses \$159,703.22, and the net earnings \$138,840.41.

The Denver and Rio Grande Railway Company gave the usual thirty days' notice to the Stock Exchange on the zrst inst. of its intention to issue 38,400 shares of stock, of the par value of \$100, amounting to \$3,840,000. In his letter to the Exchange the secretary states that the issue is "to provide means for the completing and finishing of so much of the company's lines as, including the division to Utah, together with the mileage heretofore completed, will make 1,300 miles of finished road; and to discharge certain obligations incurred on account

thereof, and other lawful purposes." The new issue makes the capital stock of the company \$33,000,000. Authority to increase the capital to \$50,000,000 was given to the company about a year ago.

The Chief of the Bureau of Statistics reports that the total values of the exports of breadstuffs from the United States in the month of October, 1882, were \$15,205,103; October, 1881, \$14,839,914: four months ended October 31, 1882, \$84,881,719; four months ended October 31, 1882, \$80,311,635; ten months ended October 31, 1882, \$149,737,960; ten months ended October 31, 1881, \$192,-292,555.

The value of the exports from the United States of provisions, tallow and dairy products in October, 1882, was \$4,660,042, and in October, 1881, \$8,920,520; in ten months ended 31st October, 1882, \$78,036,011, and in same time 1881, \$111,723,571. The value of the exports of dairy products in six months ended 31st October, 1882, was \$9,-290,862, and in same time 1881, \$13,510,432.

The Chief of the Bureau of Statistics reports that during the month of October, 1882, there arrived in the customs districts of Baltimore, Boston, Detroit, Huron, Minnesota, New Orleans, New York, Passamaquoddy, Philadelphia and San Francisco 57,689 passengers, of whom 45,965 were immigrants, 8,367 citizens of the United Staies returned frem abroad and 3,357 aliens not intending to remain in the United States. The number of immigrants arrived in October, 1881, was 67,929. The total number of immigrants arrived in the above named customs districts and from the principal foreign countries during the four months ended October 31, 1882, was 20,368, against 239,734.

A special general meeting of the shareholders of the Canada Southern Railway Company will be held at St-Thomas, Ontario, on the 30th inst., at 2 P. M., to consent to an agreement with the Michigan Central Railroad Company, under the provisions of Section 60 of the Railway act of 1879, and for other business consequent thereon.

The dividend of 11.1 per cent declared on the preferred stock of the Northern Pacific Railroad Company, is payable January 15, 1883, to holders of record December 10, 1882, in five years' 6 per cent obligations of the company, dated January 1, 1882.

The following quotations of sales of railway and other securities, for the week, are in addition to those given elsewhere in our columns.

New York.—Boston and New York Air Line pref., 781/3; Cincinnati, Sandusky and Cleveland 1st, 95: Chicago Burlington and Quincy ss. S. F., 102%; Chicago and Northwestern S. F. 58, 99; Chicago, St. Paul, Minn. and Omaha, 44%; do. pref., 102%; do. consol., 107%; Columbus, Hocking Valley and Toledo, 67; Chicago and Alton inc., 1001/4; Chicago, St. Louis and New Orleans, 82; Central Iowa, 32; do. debt. certif., 601/4; Chesapeake and Ohio 1st, series A, 104; do. cur. 6s, 50; Chicago, Milwau kee and St. Paul, Southern Minn. div. 1st, 1071/4; do. Chicago and Pacific West div. 92%; do. La Crosse and Dav. div. 1st, 94: do. Mineral Point div., 90%; Columbus, Chicago and Indiana Central 1st, Trust Co. certif., ass. sup., 115; do. inc., 50; Danbury and Norwalk, 75; Denver and Rio Grande, 41%; do. 1st, 106; do. consol., 91; Dubuque and Sioux City, 88; Denver, South Park and Pacific 1st, 97 1/4; East Tennessee, Virginia and Georgia, 9%; do. pref., 17%; do. 18t, 114; do. 58, 72; do. inc., 39%; Evansville, Henderson and Nashville 1st, 95; Evansville and Terre Haute 1st, 96; Fort Worth and Denver, 39 1/2; do, 1st, 71; Elizabethtown, Lexington and Big Sandy 6s. 96; Green Bay, Winona and St. Paul, 7; Gulf, Colorado and Santa Fe, 1st, 107%; Houston and Texas Central Gen'l mort., 97; Hannibal and St. Joseph 6s, consol., 104; International and Gt. Northern 1st, 101; do. coupon 68 82; Indiana, Bloomington and Western, 33; do. 18t, 89; Indianapolis, Decatur and Springfield 1st, 101; Iowa Midland 8s, 130; Kansas Pacific 1st consol., 100; do. 6s, Denver div. ass., 106; Lake Shore div. bonds, 1201/4; Lou. isville, New Albany and Chicago, 73; do. 1st, 1031/4; Long Island, 58; do. 116; Lake Erie and Western 261/4; Louis sville and Nashville, genl, mort, 6s, 90 %; Minneapolis and St. Louis, 27; do. pref., 65; do. 2d, 103; Mobile and Ohio, 18; do. 1st deben., 79; do. 2d deben., 45; do. 3d deben., 36; Missouri, Kansas and Texas, 31%; do. genl. mort. 68, 85; do. 78, consol., 10436; do. ed., 53; Missouri Pacific, 102 %; do. 1st consol., 100; do. 3d, 109 %; Milwaukee, Lake Shore and Western pref., 46; do. 1st, 97; do. inc., 79%; Manhattan Beach, 16; Michigan Southern S. F., 105; Memphis and Charleston, 46; Northern Pa-

cific 1st, 104 1/4: New Orleans Pacific 1st, 85%; New York, Chicago and St. Louis, 1414; do. pref., 2914; do. 18t, 95, Nashville, Chattanooga and St. Louis, 47; New York, Ontario and Western, 2614: Norfolk and Western, 17; do. pref., 51%; do. genl. mort., 100%; Ohio Southern, 14%; do. 1st, 85; Ohio Central, 131/4; do. inc., 32; do. Terminal Trust, 6s, 9s; Oregon Railway and Nav., 154; do. 18t, 108; Oregon Transcontinental, 83%; Oregon Short Line, 341/4; Ohio and Mississippi, Springfield div. 18t, 114; Peoria, Decatur and Evansville, 26; Rochester and Pittsburgh, 19%; do. 1st, 104%; do. inc., 44%; Richmond and Alleghany, 14; do. 1st, 831/4; Richmond and Danville, 59; do. 68, 93%; do. deben., 611/4; Richmond, Danville and West Point, 25; Rome, Watertown and Ogdensburg, 3c; do. ext. 58, 68%; do. inc., 40%; St. Paul and Duluth pref., 90; ;St. Paul, Minn. and Man., 141 1/2; do. 1st, 110; do. 2d, 100; St. Louis and Iron Mt., Cairo and Fulton 1st, 107; do. Cairo, Ark. and Texas 1st, 107; do. 58, 73; do. Ark. Branch 1st, 109: St. Louis, Kansas City and Northern, R. E. 78, 103; do. Omaha div. 1st, 107; South Carolina 1st, 99; Southern Pacific of Cal. 1st, 1031; St. Louis and San Francisco 2d, class A, 961; do. B, 90; do. C. 00%: St. Louis. Alton and Terre Haute div. bonds. 47; Texas and Pacific, 381; do. 1st, 130; do. inc. L. G., 53; do. Bio Grande div. 18t, 77; Utah Southern ext. 58, 101: Wabash, St. Louis and Pacific. genl. mort. 6s, 81; do. Chicago div. 1st, 81; Arkansas 78, Central R. R. issue II; Alabama Class A, 83; Louisiana consols., 681/4; do. ex mat. coupon, 61; Missouri 68, 1887, 108%: North Carolina 6s. new, R. R. issue., 130; Tennessee 6s, 46; do. compromise, 52; Virginia 6s, consol. ex-mat. coupon, 601/4; American Cable, 66; Mutual Union Tel., 221/3; do. 68, 71; Colorado Coal and Iron, 271/2; do. 68, 121; Consolidation Coal, 271/4; New Central Coal, 19; Deadwood Mining, 4; Homestake 17 1/4; Ontario, 36; Standard, 5%. Boston.-Atlantic and Pacific, unlisted, 93; do. inc.,

16; do. blocks, 101 1/4; Boston Land, 61/4; Chicago, Burlington and Quincy 4s, plain, 78; do. 4s, Denver ext., 801/3; do. 78, 126%; Central Iowa, 31%; Chicago and West Michigan, 58, 89; Connotton Valley, 3%; do. pref., 6%; Cedar Rapids and Missouri River, 1061; Eastern (N. H.) R. R., Flint and Pere Marquette, 20; do. pref., 98; Iowa Falls and Sioux 88; Jackson, Lansing and Saginaw 88, 106 1/4; Kansas City, Lawrence and Southern 58, 102%; Kansas City, Fort Scott and Gulf, 78; do. pref., 120; do. 78, 1101/2; Kansas City, St. Joseph and Council Bluffs 78, 114; Little Rock and Ft. Smith, 45; Mexican Central, 20; do. 78, 65%; do. block No. 3, 86; Marquette, Houghton and Ontonagon, 63; Massachusetts Central, 31/4; do. 6s, 2814; New York and New England 6s, 10514; New Mexico and Southern Pacific 78, 112; Oregon Short Line 68, 97 1/4; Rutland pref., 17; Sonora 78, 102%; Toledo, Cincinnati and St. Louis, 4%; do. 6s, 45%; do. inc., 12; Toledo, Delphos and Burlington, 6s, 42; do. Southeast div. 6s, 46; do. Branch inc., 10; Wisconsin Central, 13; Allouez Mining Co., 21/4; Franklin, 19; Huron, 21/4; Osceola, 34; Pewabic, 9.

Philadelphia. -Central Transp., 3414; Norfolk and Western, 17%; Oil Creek 1st, 103; Philadelphia and Reading inc. 78, 92; do. scrip, 98@96; Philadelphia City 68, 1903, 1341/4; do. 48, 1904, 113; Pennsylvania Co. 41/28, 96; Penn. sylvania Canal 6s, 89; Philadelphia, Wilmington and Baltimore 48, 93%; Pennsylvania and New York Canal 78, 1896, 122%; Texas and Pacific 1st, 105; do. consol. mort. 6s, 95; Union and Titusville 7s, 95; West Jersey and Atlantic 6s, 108. The latest quotations are: City 6s, 108@120; do. free of tax, 127@134; do. 48, new, 106@ 114; Pennsylvania State 58, new loan, 118@119; do. 48, old, 112@114; do. 48, new, 116@117; Philadelphia and Reading Railroad, 24%@24%; do. consol. mort. 78, reg., 125@126; do. gen'l mort. 6s, coupon, 94@94¼; do. 78, 1893, 118@119; do. 78, new conv., 70@71; United New Jersey R. R. and Canal, 188@190; Buffalo, Pittsburg and Western, 16@161/4; Pittsburgh, Titusville and Buffalo 78, 95@96; Camden and Amboy mort. 68, 1889, 1111/2@ 112%; Pennsylvania R. R., 57%@57%; do. general mort. 6s, coupon, 125@1261/6; do. reg., 124@126; do. consol. mort. 68, reg., 120@122; Little Schuylkill R. R., 58@ 59; Schuylkill Navigation pref., 11 1/2@12 1/8; do. 68, 1882, 80@00: Elmira and Williamsport pref., 58@60; do. 5s, -@ 100; Lehigh Coal and Navigation, 38%@38%; do. 68, 1884. 103@104; do. R. R. loan, 114@115; do. Gold Loan, 112@ 113; do. consol. 78, reg., 117@118; Northern Pacific, 43% @4314; do. pref., 921/69214; North Pennsylvania, 64@ 641/4; do. 68, 106@1061/4; do. 78,119@-; do. 78, General mort. reg., 124@-; Philadelphia and Erie, 20@201/2; do. 78, 114@115; do. 58, 102@103; Minehill, 621/2@63; Catawissa, 20%(@21; do. pref., 53@54; do. new pref., 52@54; do. 78, 1900, 118@120; Lehigh Valley, 63@—; do. 68, coupon, 122@123; do. 78, reg., 132@133; do. consol. mort. reg., 119@120; Fifth and Sixth streets (horse), —@190; Second and Third, 115@116½; Thirteenth, 79@80; Spruce and Pine, 42@44; Green and Coates, 80@92; Chestnut and Walnut, —@93; Germantown, 70@73; Union, 110@111; West Philadelphia, 120@—; People's, 9½@10½; Continental, 103@105.

Baltimore,-Atlantic Coal, 1.10; Atlanta and Charlotte 1st. 106%; Baltimore and Ohio 2d pref., 123%; Baltimore City 68, 1890, 1141/4; do. 58, 1894, 113; do. 58, 1916, 121; do. 48, 1920, 111 1/4; Charlotte, Columbia and Augusta, 37; George's Creek, 94; Maryland Defense 68, 103%; Northern Central Sterling, 1904, 105; Northern Central 58, Series A, 98%; do. B, 98%; Richmond and Danville 6s, gold, 941; Virginia Midland 5th mort., 9314; do. inc., 54; Virginia 10-40 coupons, 67; Wilmington, Columbia and Augusta, 1071/2. The latest quotations are: Atlanta and Charlotte 1st, 1907, 106 %@107; Baltimore and Ohio, -@195; Baltimore City 6s, 1886, -@1081/2; do. 6s, 1890, 1141/6 @114%; do. 68, 1900, 124@126; do. 58, 1894, 113@11314; do. 58, 1916, 120%@121; Central Ohio 48½@-; do. 68, 107 1/2@108; Columbia and Greenville 1st, 1916, 100@102; Canton Co. 6s, 104@-; Marietta and Cincinnati 7s, 1891, 127%@128%; do. 78, 1896, 99%@99%; do. 88, 1890, 55@ 55%; N. W. Virginia 68, 104@106; Northern Central, 55% @561; do. 68, 1900, gold, -@1161; do. 58, Series A, 98 @-; do. B, -@981/4; Ohio and Mississippi, Springfield div. 1st, 114@115; Richmond and Danville 6s, gold, 94@ 941/4; Virginia Midland 2d mort., 108@1081/4: do. 5th mort. -@94; do. inc., 52@55; Virginia consols, 601/2@ 60%; do. 10-408, 431/2@44; do. 38, -@491/4; Western Mary land 1st unendorsed, 100@-

#### The Coal Trade.

THE leading coal-carrying companies make the following reports of their tonnage for the week ending Nov. 11, and for the year to the same date, compared with their respective amounts carried to the same time last year:—

The total tonnage of anthracite coal from all the regions for the week ending Nov. 11, as reported by the several carrying companies, amounted to 664,579 tons, against 661,779 tons in the corresponding week last year, an ine of 2.800 tons. The total amount of anthracite mined for the year is 24,902,665 tons, against 24,019,168 tons for the same period last year, an increase of 883,497 tons. The quantity of bituminous coal sent to market for the week amounted to 114,080 tons, against 114,868 tons in the corresponding week last year, a decrease of 788 tons. The total amount of bituminous mined for the year is 3,791,113 tons, against 4,248,138 tons for the corresponding period last year, a decrease of 457,025 tons. The total tonnage of all kinds of coal for the week is 778,659 tons, against 776,647 tons in corresponding week last year, an increase of 2,012 tons, and the total tonnage for the coal year is 28,653,778 tons, against 28,267,306 tons to same date last year, an increase of 426,472 tons.

The quantity of coal and coke carried over the Pennsylvania Reliable 26 of the work or wider. The quantity of coal and coke carried over the Fennsyrvania Railroad for the week ending Nov. 11 was 215,729 tons, of which 161,248 tons were coal and 54,481 tons coke. The total tonnage for the year thus far has been 9,493,301 tons, of which 7,055,715 tons were coal and 2,437,586 tons coke. These figures embrace all the coal and coke carried over the road, east and west. The shipments of bituminous coal from the mines of the furnhelland coal region for the week anded Nov. 11 were shipments of bituminous coal from the mines of the Cumberland coal region for the week ended Nov. 11 were \$2,666 tons, and for the year to that date \$1,164,207\$ tons, a decrease of \$707,923\$ tons as compared with the corresponding period of last year. The shipments were: To the Baltimore and Ohio Railroad—For the week, \$1,928\$ tons; year, 799,173 tons; decrease as compared with 1881, 389,835 tons. Chesspeake and Ohio Canal—Week, 1,670 tons; year, 218,165 tons; decrease as compared with 1881, 213,618 tons. Pennsylvania Railroad — Week, 1,670 tons; year, 19,336 tons. Georges from last year, 105,816 tons. The Reading Railroad shipment for last week, ending November 18, was about 205,000 tons, of which 55,500 tons were sent to and 37,000 tons shipped from Port Richmond, and 12,900 tons sent to and 15,500 tons shipped from Elizabethport.—Philadelphia Ledger, Nov. 20.

### FOR SALE.

Locomotives-Two Second-hand Narrow-Gauge Engines in good order.

One Second-hand "Tank" Narrow-Gauge Engine, 10 tons. Several Second-hand Standard-Gauge Locomotives in good order, immediate delivery.

One new 3ft. Gauge Passenger Engine, 22 tons, prompt delivery.

Six new 4ft. 81/4 Gauge Locomotives, cylinders 17x24, weight 35 tons. November and December delivery.

Two new 3ft. Gauge Locomotives, Cylinders 12x18, weigh; 20 tons. December and January delivery.

Cars—Passenger and Freight Cars of all descriptions for

early delivery.

Rails-16lb., 20lb. 30lb. 35lb. and 56lb. Rails.

Car Wheels and Axles.

Narrow-Gauge Rolling-stock a specialty.

BARROWS & CO.,

64 Broadway,

NEW YORK.

## F. W. DEVOE & CO.

# RAILWAY VARNISHES.

COACH AND CAR COLORS,

Ground in Oil and Japan, ETC., ETC.

Fine Brushes adapted for Railroad use. All kinds of Artists' Materials. Colors for ready use, and all specialties for Railroad and Carriage purposes

Railroad companies will save themselves great trouble in painting by allowing F. W. Devoe & Co. to prepare their Passenger and Freight Car Colors. This will insure Durability, Uniformity and Economy. F. W. DEVOE & Co., manufacture from the crude materials, which are the component parts of any shade, and they understand better their chemical relationship, when in combination, than can be possible to those who simply buy their dry materials and then grind them.

SEND FOR SAMPLE CARD OF TINTS.

Cor. of Fulton and William Sts. NEW YORK.

## Continuous

Automatic

## FREIGHT BRAKES.

Requiring no other Connection between Cars than the ordinary Coupling-Link and Pin.

## SIMPLE, DURABLE, AND EFFICIENT.

Brakes can be applied to every Car in the longest train, from the engine or cabose, or from any car in the train. It can be readily attached to any car, and adapted to ordinary brake beams, shoes, etc. There is no possibility of damaging wheels by "sliding."

#### PATENTED MAY 23, 1882.

Railroad and manufacturing companies, or partiss able to co-operate with patentee in their manufactur and introduction, are invited to correspond with

WM. C. SCHULTZE, Surgeon C., B. I. and P. By. MARENGO, Iowa Co., Iowa.

## NO OTHER LINE IS SUPERIOR TO THE

# FITCHBURG RAILROAD HOOSAC TUNNEL ROUTE WEST.

8.30 A. DAY EXPRESS.
Wagner Palace Drawing Wagner Palace Drawing-Room Cars Attached.

Running through to Syracuse, N.Y., where connection is made with through sleeping-cars for Cincinnati, Cleveland, Toledo, DETROIT AND CHICAGO.

## CINCINNATI EXPRESS.

Pullman Sleeping Car attached, running through to Cincinnati without change. (Only Line running Pullman Cars from Boston.) This car runs via Erie Railway and N.Y., P. & O. R.R., making direct connection for Louisville, St. Louis, Kansas City, New Orleans, and all points in Texas and New Mexico.

> P. ST. LOUIS EXPRESS.

THE ONLY LINE which runs a THROUGH SLEEPING-CAR from

## BOSTON TO ST. LOUIS WITHOUT CHANGE!

ARRIVING AT 8.00 A.M. SECOND MORNING.

Through sleeping car for Buffalo, Toledo, Fort Wayne, Logansport, Lafayette, Danville Tolono, Decatur and St. Louis, making direct connection with through Express Trains for Kansas, Colorado, Texas, and all points in the

SOUTHWEST.

DO P. PACIFIC EXPRESS.

The only line running a through sleeping-car via Niagara Falls, Canada Southern Railway and Detroit without change, arriving at Chicago at 8.00 A.M. second morning, making sure connections with through Express Trains for Iowa, Nebraska, Kansas, Colorado, the Pacific Coast, Wisconsin, Minnesota and all points in the

## WEST AND NORTHWEST.

THE ABOVE TRAINS RUN DAILY, SUNDAYS EXCEPTED.

This Great Short Line passes through the most celebrated scenery in the country, including the famous HOOSAC TUNNEL, four and three-quarters miles long, being the longest Tunnel in America, and the third longest in the world.

Tickets, Brawing-Room and Sleeping-Car Accommodations may be secured in Advance by Applying to or Addressing

250 WASHINGTON STREET, BOSTON.

JOHN ADAMS, General Superintendent. F. O. HEALD, Acting Gen'l Passenger and Ticket Agent.

In effect October 23d, 1882, and subject to changes.

#### RAILROAD AND CANAL DIVIDEND STATEMENT.

Showing the amount of Stock Outstanding, the Dividend Periods and the date of last Dividend.

farked thus(*)are leased roads.	Stock out- standing.		Last Dividend Payable.	Marked thus(*)are leased roads.	Stock out- standing. Divide'd Periods.		Markedthus(*)are leased roads.	Stock out- standing.	Divide'd Periods.	Last Dividend Payable.
lbany and Susq*200				Little Miami 50	4,637)300 q'arterly	Sept. '82 2	Ware River* Warren (N. J.)100	750,000	semi-an.	July '82 31/4 Apl. '82 31/4
shuelot	54,000,000	q'arterly	Nov. '82 1 1/4	Little Rock & Ft. S 100 Little Schuylkill* 50	2,040,100 semi-an.	July 82 3%	Warwick Valley 100	340,000	semi-an.	July '82 21/2
tlanta and W. Pointroo	1,232 200	semi-an	Jan. '82 6	Louisville & Nashvroo	10,000,000 q'arterly	NOV. 82 I	West Jersey			July '80 2 Sept. '82 3
tlanticand St. Law*100 ugusta and Savan'h100				Lowell & Andover100	500,000 8emi-an.	Jan. 82 3%	Wilmingt'n&Weld'n.100	1,456,200	semi-an.	July '82 3
von,Geneseo&MtM*100 altimore and Ohio.100	225,000	semi-an	July '81 3	Lykens Valley100 Manchester & Law100	600,000 q'rterly.	Oct. 81 2 %	Wil., Col., & Aug100 Winchester& Poto'c.*100	960,000	semi-an.	July '82 3 July '82 3
" pref. 100	5,000,000	semi-an	July '82 3	Manhattan	13,000,000		Winchester&Strasb.*100	74,700	semi-an.	July '82 3
Washington Br100 Berkshire*100			Nov. 82 5 Apl. 82 1%	" " 1st pref.100	6,500,000 q'rterly. 6,500,000 q'rterly.	Oct. '82 1 1/2	Worcester & Nashua. 75	1,789,800	semi-an.	July '82 1 1/4
Seston and Albanyroo	20,000,000	q'arterly	Sept. '82 2	Marietta& Cincinnati 50	1,386,350		HORSE-POWER R. R.			
los. &N.Y.AirLine pf. 100 los., Cl., F.&N.B.pref. 100				" 1st pref 50	8,105,000 semi-an.	Sep. '66 38	Albany City 100 Baltimore City 25	1,000,000	semi-an.	Oct. '82 3
los., Conc. & Mont. pf*100	800,000	semi-an	Nov. '82'3	Marq.Hout.&Ont.pf100	2,259.026	Aug. '82 4	Balt., Cat. & El. Mills 100		semi-an.	July '82 2
Soston and Lowell500 Soston and Maine100			July '82 2 Nov. '82 4	Massawippi*100	6,500,000 q'rterly-	Oct. '82 1 1/2	BleeckerSt.&Ful.F'y.100 Boston&Chelsea pref. 50	110,000	semi-an.	July '82 % Oct. '82 3
loston & Providence 100	4,000,000	semi-an	Nov. '82 4	Michigan Central100	18,738,204 q'rterly.	Aug.'81 1	Broadway (Brooklyn)100 B'way&7th Av, (N.Y.)100	250,000	q'arterly	Oct. '82 6 Oct, '82 2
Attleborough Br100 08., Revere B & Lynn 100			July '82 31/4 July '82 31/4	Middlesex Centralroo Mill Creek& Minehill* 50	323,000 semi-an.	July '82 5	B'klyn&Hunter's Pt. 100	400,000	semi-an.	Oct. '32 6
uffalo, N. Y. & Eries. 100	950,000	semi-an	June'82 3	M.Hill& Schuyl.Hav* 50 Missouri Pacificroo	4.022,500 Semi-an.	July '82 3 1/2	Brooklyn City100 Bushwick (Brooklyn)100	2,000,000	q'arterly	Aug. '82 31/4 Oct. '82 6
amden & Atlantic 50			Nov. '82 3 Nov. '82 4	Mobile&Montgomervice	3,022,517 Semi-an.	reb. 802%	Cambridge	908,000	q'arterly	Oct. '82 434
amden & Burl. Co 100	381,925	semi-an	July '82 3	Morris and Essex 50	15,000,000 semi-an.	July 82 3 %	Cen.Park, N.& E.Riv.100 Christoph'r&TenthSt100		q'rterly.	Oct. '82 6 Aug. '82 23
anada Southernroc ape May & Millville* 50			June'813	Mt Carbon&PtCarbon 50 Nashua and Lowelloo	800,000 semi-an.	Nov. '82 4	Citizens' (Phil.) 50	192,500	q'rterly.	Jan. '82 2 1
atawissa* 50	1,159,500	annual	Oct. '82\$21/2	Nashua & Rochester.100	1,305,800 semi-an	Oct. '82 1 1/2	Citizens' (Pbg.) 50 Coney Island&Bklyn100	200,000		Oct. '80 5
" pref 20			Nov. '82 3 1/2 Nov. '82 3 1/2	Nashv. & Decatur100 Nash.,Chat.&StLouis 29	6,670,325 semi-an	Apl. '82 1 1/2	Continental (Phil.) 50	580,000		July '82 6
ayuga and Susq.* 50	589,110	semi-an	July '81 41/2	Naugatuck	2,000,000 semi-an	July '82 5	D.Dock, E.B'way&Bat100 Eighth Av. (N. Y.)100	1,200,000	q'arterly	Aug.'82 4
edar Rapids&Mo.R*100	760.600		Nov. '82 1 1/2 Aug. '82 3 1/4	Nesquehoning Val'y* 50 N.Castle&Beaver Val* 50	600,000 q'rterly	Oct. '81 -	42d St. & G. St. Ferry 100	747,000	semi-an.	Oct. '82 3 May '82 6
entral of Georgiazoo	7,500,000	semi-ar	June '824	NewLondonNorth'n*100	1,500,000 q'rterly	July '82 1 1/2	Frankf.&Southw (Ph) 50 Germantown, (Ph.) 50	500,000	q'rterly.	Oct. '82 6
entral of New Jersey 100 entral Ohio* 50	2.437.050	q'arterly	July '76 23/8	N. Y. Cen. & Hud. R. 100 N. Y. and Harlem100	7.050,000 q'rterly	. July '82 4	Girard College (Ph.) . 50	500,000		Oct. '82 23 July '71 3
" pref 5	411,550	semi-ar	July '82 3	" pref. ro	1,500,000 q'rterly	July '82 4	Grand St. & Newton. 100	170,09	semi-an.	July '81 23
entral Pacific 100	280.000	semi-ar	July '81 1 14	N.Y. LakeErie&West. 10	77,083,000annual		Green&Coates St.(Ph) 50 Heston, Mantau&F'm 50	200,38		Oct. '82 3 Jan. '75 4
hemung*io	2,155,300	semi-ar	July '82 11/2	" pref. 100	8,156,825	. Jan. '82 6	Highland100 Lomb.&SouthSts(Ph) 25	600,000	semi-an.	July '82 4
hicago and Altonio	2.245.400	semi-ar	Sent. '82 4	N. Y., N. H. & Hart100 N. Y., Prov. & Bostonio	3,000,000 q'rterly	Nov. '822	Lynn and Boston100			Oct. 75 4 Nov. 82 4
hi. Burl. & Quiney, ro	D 55.227.45	5 g'arterly	Sept. 82 2	Niag.Bridg&Canand*10	1,000,000 semi-an	. July '81 3	Malden and Melrose. 100	165,000		*********
hi., Iowa & Nebras*. 10 hi., Mil. & St. Paul. 10	3,910,200	semi-ar	Oct. '82 3 4	North Carolina*10	I.000,000 semi-an	Sep. '81 3	Metropolitan (Bost.). 50 Middlesex (Boston)100			July '824 Nov. '82 33
hi. & N. Westernio	14,401,48	semi-ar	Oct. '82 334	N. Eastern (S.C.) prefro	86,000 semi-an	May '81 4	N.Y., Bay Ridgek Jam 100	150,000		Oct. '78 7
hi. & N. Westernio	14,988,25	semi-ar	Sept. '82 2	Norfolk & Western pref North Pennsylvania. 5	4,527,150 q'rterly	Nov. '82 1%	Orange & Newark100		5	
hi., R. I. & Pacific 10	41,960,000	q'arterly	Nov. 82 1%	Northern Central 5	6,142,000 sem1-an	. July 82 3	People's (Phila.) pref. 25	124,74		July '82 2
thi. and West Mich . 100 thi., St.P., M.&O. pref. 100				Northern N. Hampshio Northern N. Jersey*.10		July '80 236	Philadelphia City 50 Phila. and Darby 20		semi-an.	July '82 4 July '81 33
., Ind., St. L. & Chi., 10	6,000,000	q'arterly	July '82 1 34	Norwich& Worcester 10	2,604,400 semi-an	July '82 5	Phila. & Grey's Ferry. 50	308,00	semi-an.	Jan. '82 6
Cin., Sand. & Clev.pf. 5 Clev. and Mahoning* 5	429,03	semi-ar	Nov. '82 3	Ohio and Miss. prefo			Pbg, Alleg. & Manches. 50 Ridge Avenue (Ph.) 50		semi-an.	Oct. '81 3 Oct. '81 11
Clev. and Pittsburg* 5 Columbus & Xenia*. 5	0 11,244,33	g'arterly	Dec. '82 1 %	Oregon R'way&Nav.10	6,000,000 q'rterly	. Nov. '82 2	Second Avenue (N.Y.)100	1,199,50	semi-an.	July '82 4
columbus & Xenia*. 5 colum. & Hocking Val. 10	0 1,786,20	q'arteri	Sept, '82 2	Oswego & Syracuseo Panama		July '8261/2	Second&ThirdSt.(Ph) 50 17th &19th sts (Ph.) 50			Jan. '82 434 July '81 3
oncord 9	0 1,500,00	semi-aı	Nov. '82 5	Paterson & Hudson*.10	630,000 semi-an	July '82 4	Sixth Avenue (N. Y.)100	750,00	semi-an	May '82 5
concord and Ports.*. 10 conn.& Passump.Riv10		semi-ai	July '82 31/2 1 Aug '82 3	Paterson & Ramapo.10 Pember.&Hightst'n*. 5	242,150 Semi-an	. Jan. '82 3	South Boston 50	600.00		Nov. '82 3 July '82 4
Connecticut River 10	0 2,100,00	semi-ar	July '82 4	Pennsylvania	83.786.570 semi-an	Nov. '824 16	Third Avenue, N. Y100	2,000,00	o q'rterly.	Aug '82 5
umberland Valley 5	0 1,292,95		y Oct.' 82 21/2 n Apl. '82 4	Pennsylvania Co 5 Peoria & Bureau Val*10	1,200,000 BeIII1-AI	Feb. 824	13th and 15th sts.,Ph 5c 23d street, N.Yroc			Jan. '82 4 Aug. '82 4
" 2d pref. 5	0 243,00	o semi-a	Apl. '82 4	Philadelphia & Erie*. 5	7,013,700 semi-an		Union, Boston50 Union, Phila 50	374.30	o semi-an	Jan. '82 4
Dayton and Mich.* 5	0 2.402.57	3 semi-at	Oct. '82 21/2 n Apl. '82 13/4	Phil.Ger. & Norrist'n* s	2,400,000 semi-an	. Sept. 82 3	West Philadelphia 50			Jan. '82 7 July '77 10
" pref. s	0 1,211,25	o g'arterl	y July '82 2	Phil and Reading s	0 22.726.275 Q'Tterly	Jan. 76 2 %	CANALS.		W. F.	
Delaware* 2 Del. & Bound Brook*10	0 1,652,00	o g'arterl	Nov. '82 1 %	Phila. and Trenton10	0 1,551,000 q rterly	Oct. '82 234	Chesapeake and Dela 50	2.078.03	8 semi-an	June'752
el., Lack& Western	0 26,200,00	o q'arterl;	y Oct., 82 2	Phila., Wil. and Balt. 5	0 11.585.750 Bemi-an	1. July 82 4	Delaware Division 50	1.633.35	o semi-an	. Aug. '82 \$
Denver & Rio Grande. 10 Den., South P. & Pac. 10	0 3,500,00	q arteri	Aug.'80 4	Pittsb., Ft. W. & Chi.*10	o 6,770,900 q Tterly	Oct. 82 1%	Delaware & Raritan*. 100	5.847.40	o g'rterly	Oct. '82 23
Detroit, Lans. & Nor. 10	0 1,825,60	o semi-a	Aug.'80 2%	Pittsfield&N.Adams10	0 450,000 Semi-an	1. July '82 2 1/2	Lehigh Coal and Nav 50 Monongahela Nav 50	11,204,25	o semi-an	June'82 2
dubuque&Sioux C'y*10	0 5,000,00	o semi-a	n Aug. '82 3 %	Providence & Worces. 10	2,000,000 Semi-an	1. July '82 3	Morris, consolidated, roc	T DOE OD	semi-an	Ang. '800
ast Pennsylvania*.,	D 1,700.55	o semi-a	n July '823	Rensselaer&Saratog.*10		July '82 4	" preferredoc	1,175,00	o semi-an	. Aug. 82 5
ast Mahanoy* 5 astern (N. H.)	0 392,95		n July '82 3 n June'82 2 1/4	Rhode Island& Mass. 10 Richmond& Danv10	o 3.866,000 g'rterly	. Aug. '822	Schuyl. Nav., com.*. 50	850.10	o annual.	Oct.'82 500
el River	0 2 000 00	o q'arterl	y Sept. '82 \$1	Richmond & Petersbio	o 1,009,300 semi-an	Jan. '81 3		3,200,00	annual.	Oct. '82 \$
" pref. c	500.00	o semi-a	Nov. '82 1 1/2	Butland preferred vo	4.000.000 Semi-an	. Sept. 82 r	MISCELLANEOUS.			
rie and Pitsburg*5 Evansville & Terre H. 10	0 1,998,40	o q'arterl	July '82 3 % y June '82 1 %	St.L., Alt. & T. Haute. 10	2,300,000	Waw 10	Adams Express	12,000,00	o q'rterly	Dec. '82 2
itchburg	0 4,500,00	o semi-a	n Nov.'81 2 n July '82 3	St.L.&S.Fran.1st prefro	0 4,500,000 ******	. Aug. 82 3%	American Express 50 Amoskeag Manuf.Co.100	3,000,00	o semi-an	June'81 5
. & P. Marquette pf. ro	0 6,500,00	o semi-a	n July '82 3	CAY TAKE SChoulder	BOTO1-07	Ech ann	Amoskeag Manuf.Co.100 Calumet & HeclaMin'g 20	100,000 8	3. q'rterly	Nov. '82 \$
rt.W. & Jackson pref. 10 leorgia	0 4,200,00	o g'arterl	July '82 2 %	St.L., Jac'ville & Chic. 10 St.L., Jac'ville & Chic. 10 " pref. 10 St. P. & Duluth pref. 10	0 1,293,000	. Aug. '82 436	Central Mining Coion Consolidation Coalro	10.250.00	o semi-an	Jan. 82 2
ranite ro	0 1,250,00	o semi-a	n July '82 3	St. P. & Duluth pref.ro	o 4,705,000 q'rterly	June'82 1%	George's Creek C.&I.100		. semi-an	. Jan. 82 3
Han. & St. Jo. pref . 10 Harrisbg&Lancaster	O x x82 50	o semi-a	n July '82 2 14	St. P., Minn. & Mano Schuylkill Valley* 5	0 20,000,000 9 10011	1 410 1. 02 2	Mariposa L. & Miningro	TO 000 00	0	
I'ford &Conn. West'n. 10	00		. Nov. '82 1 1/2	Seaboard & Roanoke.10	o 1.220.600 semi-ar	1. Nov. 82 5	Missouri Val.LandCoro	5,000,00	0	Imle to
Iousatonic prefrd	30,000,00	o semi-a	n Sept. '82 3 1/4	Shamokin V.&Pottsv 5 Shore Line*	o 1,000,000 semi-ar	1. July '82 4	National Tube Workston	T 000 00	o g'rterly	Oct. 822
a.Falls & Sioux City*10	4,623,50	o q'arterl	y Dec. '82 1%	Sioux C.&Pacific prefic	o 169,000 Semi-ar	1. Oct. 82 3 %	Pac. Mail Steamship.ro	20.000.00	o grterly	Sept. 60 2
ows R. Land Coic				South Br. (N. J.)*rd South Western (Ga.)*rd	0 3.802.300 Bem1-al	1. Dec. '81 3 1/4	Pennsylvania Coal 50 Pullman Palace Car 100	10.032.80	o g'rterly	Nov. 82 2
oliet and Chicago*	10 T.500.00	o d'arter	v June'82 1 %	Stockbridge&Pitts.*. 10	0 448,700 Sem1-ar	1. Oct. '81 1 1/2	Quicksilver, comro	5.708.70	0	May '82 o
Kan.C.,Ft.S.&Gulf	4,000,00	o semi-	n Aug. '82 4	Syr., Bingham&N.Y.*10 Terre Haute & Ind10	0 2,500,000 semi-ar	1. Aug. '82 4	Quincy Mining Co 2	4,291,30	semi-an	May 82 6
Kentucky Central	500,00	o semi-a	n June'81 1	Thomas and Boston	a Fee and Remiser	I Non Kon	Onincy R. R. Bridge, you	T # # # 000	aleemi-en	July 'Ro c
Lake Shorek Mich. So. 10	5,583,50	o semi-s	n June'81 1	Union Pacific ro United Cos of N. J.*.ro	o 61,000,000 q rterly	7. Oct. '82 1%	Spring Mt. Coal	500,00	e semi-an	June '82 5
(guar.)	533,50	o semi-a	n Aug. '825	I Utica, Shenangows Vic	O 4.000,000   5 pm; - m;	T. MOA. OI 3	SiouxC.&I.F.L.&L.Coro Spring Mt. Coalor Topeka Equip'nt Co.ro United States Fr	255,50	semi-an	Oct. '82 5
Lehigh Valley	450,00	q'arter	y July '82 2	Uties and Black Riv.rd Verment and Massrd	O 1,772,000 SEIII1-BI	1. MBT. 62 2	United States Ex100 Wells-Fargo & Co. Exro	7,000,00	DIG LIGHTA	MUV. 02 I
		AND DESCRIPTION	T   UU 6 02 2	II VERMONT AND MASS IC	WILLIAM COOL ORD A CO.		Western Union Tel. 10	0,250,00	DESCRIPTION OF	. WHILV OR A

## JOHN STEPHENSON CO.





## TRAM-CAR BUILDERS,

Superior Elegance, Lightness and Durability. The result of 50 years' experience.

Adapted to all countries and climates. Com-

Adapted to all countries and climates. Combining all valuable improvements. Shipped to Foreign Parts with greatest care, and at most favorable rates.

## HOUSATONIC RAILROAD.

THE ONLY LINE RUNNING

#### THROUGH CARS

Between New York, Great Barrington, Stockbridge, Lenox, and Pittzfield—the far-famed resort of the

### Berkshire Hills

of Western Massachusetts-the "Switzerland of America."

Two through trains daily between New York City and all points on the Housatonic Railroad, from the Grand Central Depot via the New York, New Haven, and Hartford Railroad at 8:02 A. M. and 3:45 P. M.

Descriptive Guide-Book sent free by mail upon application to the General Ticket Agent.

H. D. AVERILL, Gen'l Ticket Agent.

W. H. YEOMANS, Superintendent.

General Offices Bridgeport, Ct. Nov. 20, 1882.

## NEW YORK AND NEW ENGLAND RAILROAD,

The only Line running through cars between

BOSTON

Philadelphia, Baltimore and Washington, without change.

Trains leave Boston at 7:00 P. M. daily. Returning, leave Washington 1:30 P. M., arriving in Boston 7:55 A. M.

The only Line running Pullman Palace cars between

#### BOSTON and NEW YORK

(via Hartford and New Haven).

Express train leaves Boston 9:00 A. M., arrives at New York 4:22 P. M. Returning leaves Grand Central Depot, New York, at \*11:35 P. M., arrives at Boston 7:55 A. M. \*This is the latest evening train leaving New York.

THE NORWICH LINE

\_\_RETWEEN\_

#### BOSTON AND NEW YORK.

Steamboat train with Drawing-Room cars leaves Boston 7:00 P. M. arrives at New London at 10:15 P. M., connecting with the new steamer City of Worcester, Monday, Wednesdays and Fridays, and City of New York, Tuesdays, Thursdays and Saturdays. Beturning, steamer leaves Pier 40, North River, New York, at 4:30 P. M., connecting at New London with train leaving at 4:15 A. M., arriving in Boston at 7:55 A. M. Good night's rest on the boat.

Ask for Tickets via N. Y. & N. E. R. R.
Office 322 Washington st., Depot foot Summer st., Boston.
S. M. FELTON, Jr.,
A. O. KENDALL,

Gen'l Manager.

Gen'l Pass. Agent.

## NEW YORK, LAKE ERIE AND WESTERN RAILWAY.

#### TO THE TRAVELING PUBLIC.

During the Centennial season—six months closing September 10, 1876—the Eric Railway carried almost Three Million passengers, without a single accident to life or limb or the loss of a piece of baggage.

And for a whole year the official records of the United States Post Office Department show the arrivals of Eric Railway trains in New York, on time, to be from 15 to 27 per cent ahead of competing lines.

Facts well worthy the consideration of travelers.

E. S. BOWEN, General Superintendent.

JNO. N. ABBOTT, Gen. Passenger Agent.



#### PASSENGER CARS

Of the Finest Finish, as well as every description of CAR WORK, furnished at short notice and at reasonable Prices by the

HAF.LAN & HOLLINGSWORTH CO., Wilmington, Del.



## THE CONCORD CONSTRUCTION COMPANY.

Manufactory and Machine-Shop, CONCORD, N. H.

OFFICE: 8 Exchange Place, Boston.

Manufacture on their own Account,

Or for other Manufacturers and Dealers, all kinds -

IRON, METAL, BRASS, AND WOOD WORK, ANY KIND OF IRON OR WOOD WORKING MACHINERY.

RAILROAD IMPROVEMENTS & SUPPLIES.

## The Jewett Wrecking Car, and Bean's Adjustable Swing Bed Planer.

We solicit Correspondence with Manufacturers, Dealers and Inventors. Address all communications respecting Models, Drawings, Estimates or Manufactures to

### CONCORD CONSTRUCTION CO., Concord, N. H

Letters respecting the financial affairs of the Company should be addressed-

H. F. WORRALL, Treasurer, 8 Exchange Place, Boston, Mass.

#### RAILROAD EARNINGS.-MONTHLY.

	Dd, N				381			100					
BURL, CEDAR RAP. & NORTHERN:		February 165,170	March. 188,395	April. 141,652	May.	June. 153,378	July.	August. 160,160	September			r. December	
1881	167,750	124,510	148,551	184,680	165,630	205,912	174,351	209,112	179,804	204,991	203,880	232,812	2,053,484
CENTRAL PACIFIC:		225,631	224,107	178,304	199,278	211,257	198,276	224,921	●261,439	300,155	******	******	*******
1880	1,602,007		1,373,438	1,350,716	2,091,411	2,159,382	1,840,067	2,088,519	1,994,997 2,185,303		2,199,466	2,225,179	20,508,113 24,094,101
CHESAPEAKE AND OHIO:	1,839,469	1,720,675	1,969.737	2,054,687	2,342,298	2,229,105	2,020,000	2,277,000	2,474,000	2,409 000			********
1880	202,335	198,681	222,762	221,559	199,443	214,352	238,236	259,110	247,303	211,820	240,795	218,000	2,674,308
1882	210,455	184,389 209,708	228,479 208,981	267,454	252,235	241,135 260,753	306,831	262,858 371,175	332,219	236,396 347,882	235,585	203,562	2,702,762
CHICAGO AND ALTON:	534,054	497 013	626,473	542,961	616,128	617,524	708,906	761,120	767,349	785,199	696,776	574,695	7,718,198
1882	487,890	461,641	529,915 584,483	558,190	548,556 553,412	635,860 613,886	676,205	769,751 800,624	774.790	771,844	680,133	635,307	7,553,988
CHICAGO AND NORTHWESTERN:												******	********
1881	,240,664	963,204		1,474,612		2,306,440	1,699,686	2,315,164		2,341,098	2,019,038	1,477,902	
CHICAGO, BUBLINGTON AND QUINCY		1,474,176	1,072,931	1,668,741	2,110,947	2,022,700	2,025,736	2,099,755	2,497,053	2,592,100	*******		
1881	1,432,740	1,411,870	1,732,518		1,909,627	1,682,956 2,083,803	1,773,643	1,834,321		1,934,762	1,837,860		20,454,494
1882 CHICAGO, MILWAUKEE AND ST. PAU	1,658,834	1,457,300	1,566,217	1,574,371	1,505,261	1,437,164	1,625,006	2,173,945 2,086,858	2,186,400	2,031,001	1,816,133	1,905,490	21,324,150
1880	764,298	738,749	900,675	871,041	1,134,745	1,037,958	1,026,708	991,297	1,257,677	1,493,620	1,472,037	1 397,308	13,086,119
1882		682,717	916,989	1,259,946	1,538,491	1,729,811	1,568,706	1,678,361	1,644,676	1,591,052	1,569,000	1,855,000	
CHICAGO, ST. PAUL, MINNEAPOLIS AS	ND OMAHA	A:	-									********	••••••
1881	257,786	173,078	251,648	251,211	350,124	404,562	236,995 383,202	385,586	300,833	342,052	342,894 380,733	391,950	3,122,097
CINCINNATI, INDIANAPOLIS, ST. LOT	JIS AND C	315,100 HICAGO:	405,779	356,558	405,420	363,109	331,480	394,555	482,997	546,671	******	******	*******
1881	182,523	172,541	191,005	168,199	186,995	192,299	204,138	233,478 229,858	343,627	239,881	209,014	198,254	2,412,185
DENVER AND RIO GRANDE;	200,042	186,879	208,066	204,269	199,110	195,948	209,564	******	259.379	221,320	194,805	192,623	2,296,916
1880		126,922	160,883	164,882	193,925	295,455	373,132	400,133	406,583	473,318	408,562	349,196	3,478,007
1882	307,476	317,681	398,493 535,055	559,917	514,767	584,230 537,462	548,284 495,797	574,040	589,287 595,306	638,432	566,819	643,417	6,206,812
HANNIBAL AND ST. JOSEPH:		166,965	216,061	206,735	191,317		224,312	238,081					
1881	154,401	122,874	176,356	190,812	172,950	179,396	201,899	210,240	233,448	242,214	207,147	279,635 180,376	2,561,366 2,230,961
ILLINOIS CENTRAL:	138,284	154,717	168,798	148,913	154,917	155,030	184,347	258,628	239,190	238,442	******	******	******
1881	595,212 631,281	613,806 524,499	557,789	535,732 662,493	673,259	681,736 803,887	724,095	732,755 868,407	806,836 828,847	880,211 815,238	783,120 737 218	673.182 763,475	8,304,812 8,586,397
1882 INDIANA, BLOOMINGTON AND WEST		689,387	695,371	674,603	674,749	663,746	752,251	813,600	828,238	865,325	******	1-314/3	********
1880	80,498	89,690	116,185	90,374	85,733	106,954	103,438	116,732	110,622	121,343	95,621	104,619	1,233,079
1882	195,824	83,261 175,755	192,085 206,235	203,677	182,554	199,846	190,125 206,072	272,114	247,932	225,678 269,046	160,826	156,697	*******
LOUISVILLE AND NASHVILLE:	674,455	575,035	612,593	563,883	655,014	976,229	772,538	827,089	931,911	1,000,327	953,087	949,185	9,491,346
1881	812,118	805,124 960,315	947,959	855,704 953,603	828,726 958,130	1,227,885	817,135	876,192	951,566	1,002,950	1,065,223	1,153,779	11,344,361
MOBILE AND OHIO:						1,215,490	1,063,765	1,043,912	1,107,985	1,216,215	**********	*********	*******
1880	224,347	204,095	168,302 230,916	163,551	145,803	136,517	135,549	140,593	210,262	264,714 256,924	251,368 262,986	287,372	2,273,622 2,403,224
1882 NASHVILLE, CHATTANOOGA AND ST.	159,676 LOUIS:	158,590	148,166	141,957	134,378	135,184	136,398	140,443	160,031	265,201	******	******	*******
1881		191,154	169,457	183,525	158,839	144,130	151,594	169,326	167,473	178,266	182,087	175,966	2,049,484
NEW YORK AND NEW ENGLAND:		159,961	161,005	154,155	135,556	154,549	160,991	168,304	168,999	180,319	152,059	173,127	2,075,250
1880		149,907	183,845	179,689	183,701	219,891	205,056	249,885	235,642	215,491	210,856	198 108	2,396,302
1882	213,840	217,261	212,019	216,913	283,244	231,518 290,060	246,821 300,920	280,524 353,726	299,573 338,490	261,20c 310,145	242,412	237,729	2,809,255
New York, Lake Eric and West		1,207,301	1,356,780				1,273,533		1,492,497			1,398,224	
1880	1,296,381	1,252,218	1,644,958	1,643,151	1,592,544	1,661,812	1,580,976	1,606,874	1,786,417	1,899,910	1,799,338	1,726,788	19,149,361
NORTHERN CENTRAL:		1,425,705	1,847,261	1,709,057				1,772,895		*******	********	*********	******
1880	386,157	330,860	415,325 452,906	386,130 487,273	329,788 465,588	419,193	450,298	453,923	464,093 429,565	512,918 449,664	459,054		5,050,387 5,443,697
NORTHERN PACIFIC:	407,368	413,551	430,194	435,129	482,607	482,752		667,488	592,435	******		******	314431-97
1880		77.259 78,803	119,357	185,700				223,500	330,300	358,456	300,822		2,629,710
1882		269,000	384,000	438,000		631,342			534,3 <sup>6</sup> 3 7 <sup>8</sup> 9,700	583,955 834,460	. 428,903	434,331	4,044,576
PHILADELPHIA AND ERIE:	224,307	245,372	327,678	334,947	311,470	331,024	308,699	* 347.532	322,737	367,082		281,919	3,727,733
1882		225,501 246,246	285,573 265,311	293,323 277,851	343,792	350,585	291,669	303,849	276,522 386,455	292,392	284,078	282,772	3,454,309
ST. LOUIS AND SAN FRANCISCO:											******		*********
1881	212,435	195,948	193,146 262,050	265,298	283,399	260,254		286,373	280,873 279,064	328,194			2,698,371 3,160,245
ST. LOUIS, ALTON AND TERRE HA	. 250,784 TTE:	244,654	274,959	342,806	253,419	240,177	318,613	381,637	336,805	360,900			********
1881		163,737	168,994	155,462			191,077	216,759 189,180	204,295	221,863			2,146,741
1882	. 168,987	149,619	178,145	157,450					2:7,659	204,338 229,062			2,112,801
ST. LOUIS, IRON MOUNTAIN AND S	. 555,983		451,560	408,241	349,053	363,454	432,655	565,869	671,219	688,365	632,052	656,951	6,265,597
1882		501,127	704,002 585,008	548,300 581,977					708,325 724,160		687,280	709 498	7,319,744
ST. PAUL, MINNEAPOLIS AND MAN	TTOBA:		261,798										
1881	. 254,187	159,482	320,962	425,685	382,642	405,322	387,488	414,954	485,736	605,708	300,675		
TEXAS AND PACIFIC:		418,358	531,004	570,890	858,900	856,417	853,296	801,759	832,776	979,057	******	******	*******
1881							195,711 328,063						
UNICW PACIFIC RAILWAY:	. 310,785		332,911			384,713							3,921,569
1880							1,934,215				2,251,14	8 1,869,335	23,448,445
1882	. 1,961,088	1,374,740	2,226,832				2,528,826	2,638,659	2,844,357		2,773,60	8 2,267,004	27,451,831
WABASH, ST. LOUIS AND PACIFIC:			978,629						1,178,950				F-100-02
1881	. 811,617	818,922	1,121,592	1,023,48	1,144,66	0 1,308,993	3 1,131,75	2 1,542,83	1,490,027	1,397,78	1,399.55	5 1,328,27	12,428,112
1882	-14,40	2 -1-341100	1,315,776	-,3/4,19	4 1,204,00	4 1,149,635	1,418,837	1,772,544	1,682,382	1,395,080	********	• ••••••	********

STANDARD OF THE ENGLISH LANGUAGE.—Webster's Unabridged Dictionary is commended the English world over for its excellence. Wherever you find English speaking people there you find Webster. England has produced nothing equal to it, and in America it is the standard. The illustrations are a marvel fo accuracy and number, and it is a treat just to be able to look through it. The new edition has 118,000 words, 3,000 engravings and four pages colored plates. Its able and comprehensive definitions are a library in themselves—a thesaurus of unbounded treasures.

#### THE

# Sheffleld Telegraph & Light Section



Our two-man car introduced during the present year on a large number of prominent roads, is giving entire satisfaction. Full particulars and descriptive circulars sent on application.

#### Sheffield Velocipede Car Co.

Three Rivers, Mich.

## WESTERN ELECTRIC CO.

Chicago.

Indianapolis.

New York

# Telegraph and Telephone Apparatus

THE BEST QUALITY, AT BOTTOM PRICES.

Catalogues free cn application.

THE ROGERS

## LOCOMOTIVE AND MACHINE WORKS,

Paterson, N. J.

Having extensive facilities, we are now prepared to furnish promptly, of the best and most approved descriptions, either

## COAL OR WOOD BURNING

AND OTHER VARIETIES OF

#### Railroad Machinery.

J. S. ROGERS, Pres't. R. S. HUGHES, Sec'y. WM. S. HUDSON, Supt.

R. S. HUGHES, Treasurer, 44 Exchange Place, New York.

## SWIFTS IRON AND STEEL WORKS,

No. 26 West Third Street,

Cincinnati Ohio

Manufacturers of all Weights of Standard and Narrow Gauge Rails by the most approved process. Also Rail
Fastenings, Steel and Bloom Boiler Plate, and Tank, Sheet, and Bar Iron.

# STEEL

#### FROM 1-4 TO 10,000 lbs. WEIGHT.

True to pattern, sound and solid, of unequaled strength, toughness and durability.

An invaluable substitute for forgings or cast-irons requiring three-fold strength.

CROSS-HEADS, ROCKER-ARMS, PISTON-HEADS, ETC., for 15,000 Crank Shatts and 10,000 Gear Wheels of this steel now running prove its superiority over other Steel Castings.

CRANK-SHAFTS, CROSS-HEADS and GEARING, specialties. Circulars and Price Lists free. Address

## CHESTER STEEL CASTING CO.

407 Library St., PHILADELPH

Works, CHESTER, Pa

## ALLEN PAPER CAR WHEEL COMPANY.

GENERAL OFFICES: 240 BROADWAY, NEW YORK.



**Manufacturers of Allen's Patent** 

## -PAPER CAR WHEELS,-

(ALL SIZES).

Especially adapted for Sleeping and Drawing Room Cars, Locomotive and Tender Trucks, Steel Tire, with annular web—strongest, most durable and economical wheel in use. Works at Hudson, N. Y.; and at Pullman (near Chicago) and Morris, Ill.

A. C. DARWIN, Pres.

C. H. ANTES, Sec'y.

J. C. BEACH, Treas.



THE USE OF THE

## McLeod Automatic Air Railroad Signal

Will prevent Railroad Accidents and Save Life.

"The McLeod Air Signal is an ingenious and inexpensive device by which the coming of a train is announced far in advance, both by visible and audible signals." [Mass. R. R. Com. Report.]

This signal has been fully tested on the New York and New England Railroad at Dudley and Bird Streets, by practical operation, and has proved a complete success, to the entire satisfaction of the many prominent Railroad men and experts who have watched and examined it. It provides an Automatic Block, Crossing, Station, Switch, Bridge, Yard and Curve Signals, Gate and Revolving Lanterns. Being operated by the weight of trains passing over an incline bar, forcing a mmon air through a tube, by means of a bellows, which is positive in its action, it is highly commended by all railroad officials who examined it.

The company can shortly fill orders to place it on any railroad, and invite communication from Railroad Officials from all parts.

## McLEOD AIR RAILROAD SIGNAL CO.,

4 Pemberton Square, Boston, Mass.

New York Office with Col. Thos. R. Sharp, 115 Broadway.

#### OUR CHICAGO LETTER.

[From our Special Correspondent.]

THE CABLE RAILBOAD.

ONE of the first objects to attract a visitor's eve in this city is the sight of street cars moving along without visible means of propulsion; and as this road is one of the three in the world, a description of it can but be of interest. Its manner of operating is the principle of the endless chain propelled by a stationary engine. The cost of it was enormous, and was perhaps greater in this city than it would be elsewhere, as there is practically no foundation to the town, and one had to be built for the heavy cable. The whole process was this: The management of the Chicago City Railway Company (south side) became convinced that there was a better way of operating their road than by horses, and after investigating the various methods, decided that the cable system was the best, and visited San Francisco, where at that time the only one in the world was in use. Being much pleased with what they saw, they proceeded to lay one in this city. The street of their main line, from Thirty-ninth street up State street to Madison, was opened and a cement foundation put in under that portion occupied by the track, having set in it iron braces every little way. Attached to these, every thirty-two feet, were placed pulleys sixteen inches in diameter, on which the cable rests. There are at present two systems of cables in operation, one extending from the engine house at Twenty-first street north to Madison, where it passes around a horizontal pulley twelve feet in diameter, and returns under the south-bound track to the engine. This cable is one and one-quarter inches in diameter and composed of 114 strands of stout wire.

At Twenty-first street it passes around another horizontal pulley under the street, and thus turning at right angles enters the enginehouse. As it passes in it goes through an instrument called a tell-tale, which if a break has occurred in the cable, instantly rings a loud gong notifying the engineer, who at once shuts off steam and stops before the break has time to return under the street. After entering, the cable passes over the drum of the engine, passing around it four times to prevent slipping. Leaving this it is carried around what is called the tension-drum which rests on a sliding bed. A large chain is attached to the further end of this, which is carried back over a wheel and a 5,800 lb. weight attached to it. This pulls the tension-drum back as slack is allowed on the cable, thus always keeping it tight.

When a large number of cars catch hold of it, this wheel and weight are drawn forward, and if six or seven along the line let go of it at once, it creates a slackness which is at once remedied by the weight. After passing over the latter wheel the cable returns under the street again. Power is furnished by four Wheelock engines of 250-horse power each, one only of which was at work on the day the writer looked it over.

The grip cars, as they are called, are built on the principle of any open horse-car, and are only about half as long. In the center of these stands the driver, who works two levers similar

in appearance to the reversing lever of a locomotive. One of these operates the grip and the other the brake. In the center of the space between the rails is a narrow opening about five-eighths of an inch wide, which must extend as far as the rails go. By looking closely through this the cable can be seen in motion under the street. At the lower end of this lever is a sheet of steel about fifteen inches long and [four-eighth swide, which after passing down through the open place in the street, extends into a piece two feet long and two inches wide, faced on its lower side with hard marble.

This is the surface which catches hold of the cable. Below this and on the same lever is its opposite, which comes below the cable and whose surface is composed of small rollers on which the cable rests. When the driver catches hold, the pressure is at first light and the cable slips through it until the grip tightens and holds it, when the car starts. The cable in passing out of the engine-house runs through hot tar, and thus does not wear much at this constantly occuring friction. Attached to the grip-cars are from one to three ordinary horsecars. Mr. Holmes, the superintendent, said in conversation with the writer, that the true economy of it consisted in attaching but one car to a grip-ear, although at present they were running trains of two and three.

From Twenty-first street to Thirty-ninth, south, the cable runs seven miles per hour and from Twenty-first to Madison, north, it runs six miles per hour. At that point the cars pass around two blocks via Madison, Wabash avenue and Lake street, back to the corner of State street and Madison, and here the speed is but three miles per hour. This is caused by a pulley on the same axle as the one the cable returns to the engine on, at the corner of State and Madison streets, and which is but half the diameter of it, or only six feet, on which this loop runs independently.

By Jan. 1, 1883, the company will have 19 miles in running order at a cost of \$3,000,000, and the superintendent has great confidence in its economy of operation over horse power. The branches will continue to be operated by horses, and the cars, when they arrive at the main line, are attached to the rear of the grip trains and hauled up town. Great trouble has been caused, so far, by careless people getting on the track, and the number of fatalities have been large. But the fault has not been with the company, as their men exercise great care, and the warning bells of the cars are going all the time.

The company was obliged to put iron gates on the side of the platforms next to the double-track, as passengers would persist in getting off directly in front of approaching trains, and since this was done several have taken the pains to climb up over these and get down on that side, one of whom was killed. People do not seem to understand that there is a difference between these cars and horse-cars, and display the same indifference toward them which they do toward the latter, while the celerity with which teams clear the way in response to the notes of the bell is noticeable. The momentum of three loaded cars is much greater than one, and they cannot be stopped in the same dis-

The company are at work on a scheme for extending the cable system out on the Archer avenue line, but as this involves the crossing of the south branch of the Chicago River and a slip, they are now trying to solve the problem and think that they will be able to do so, although just how does not yet appear clear.

A question has arisen in connection with these cable roads which is as yet unanswered, viz: How will they work with snow and ice? At San Francisco, the only place where they have had an extended trial there is no snow. The superintendent of the Chicago road says that he anticipates no trouble as plows will be run constantly during snow storms, and the engine wont get tired, as the horses do.

There is another point to be looked at in economy of operation, and that is that formerly, each car run required a driver and conductor. Under the present arrangement, only the grip car needs two men, the driver or engineer and the conductor, and the remainder of the cars of the train but one man each. There is much complaint made by the public at these cars, as the middle of the street must be kept about as clear as if a steam railroad ran through it, and the public wail is already beginning to be heard, saying, the grip cars must go, and every additional person killed adds to the hue and cry.

A noticeable feature of this style of road is the brake used, which is continuous in its operation. By the pressure of the lever previously mentioned, against the grip-car axle, a drum is revolved by the momentum of the car, and a chain is wound upon it, setting up every brake on the train. By this arrangement the train is as much under the control of the driver as any single horse car.

It is said that the road is making money, and that its stock is hard to get, but time will tell the success of the experiment, as already a second cable has had to be put in, the first one being broken so much by the operations of inexperienced men upon it. At all events, the result will be looked for with interest.

"CURTIS."

CHICAGO, November 22, 1882.

WE notice that our useful English contemporary, The City, a weekly commercial, financial and industrial review published in London, issued with its number for November 4, a wellexecuted cartoon containing portraits of electric light inventors. The City embodies in every number a large amount of information upon the subjects indicated. One excellent feature in that one under review is a series of biographical sketches, seventy-six in all, of the inventors whose portraits appear in the cartoon supplement. As the cost of the whole production, book and pictorial supplement, is only three pence (six cents), the enterprise of the publishers deserves what we most cordially give it, an emphatic recognition. The fight for an improved lighting of great cities, to their material, and it may be added, moral advantage, is one to be commended; and The City is decidedly aggressive in this struggle for a brighter

THE loftiest mountain is Mount Everest or Guarisanker, of the Himalaya range, having an elevation of 29,002 feet above the sea level.



## SUBSCRIPTION PRICE REDUCED

-FROM -

\$5 to \$3.

The American Railroad Journal,

WITH ITS VARIETY OF

New Departments,

AND ITS

#### NEW DRESS,

#### HAS ASSUMED NEW PROPORTIONS.

We are amply justified in reducing the price from its old time rate of \$5.00 per year to \$3.00, on account of the numerous indications we are receiving of late of the increased interest that is being taken in the JOURNAL, which warrants us in believing that the sacrifice we make in price will be much more than compensated for by the promised liberal increase in the number of subscribers. It is gratifying to us to know that the alterations made in the Journal during the past year are meeting with such general favor as is expressed in the frequent words of commendation and congratulation sent to us from old and new readers, and we feel called upon to try in every way to merit their approval and to spare no pains to place the paper before as many as possible of those who might derive benefit and profit from it. During its fifty years' experience the Journal has been highly favored by an especially choice class of readers, counting among its subscribers some of the most noted banking houses, commercial bodies, financiers, and railroad men of this country and Europe. Its aim in the future will be to prove itself of more value and interest than ever to its patrons of many years standing, while by its new features it makes itself of service and interest to a broader field and to more varied departments of life and business. We desire to make the Journal as useful and welcome as possible to our readers and advertising patrons, and to this end we hope to have our columns of correspondence, communications and general information full and diversified. The columns we have devoted to general communications have proved especially interesting and popular of late, and we are pleased to have our rraders favor this department with suitable contributions

We give on editorial page our new subscription rates, which are so changed in the belief that it will not only prove acceptable to many who desire to become regular readers of the paper, but that it will meet with the hearty approval of our advertising patrons, who are rapidly filling up the pages offered to them since the improvements in the Journal have been started.

We will send you the "Journal" for three months for \$1. Try it, and you will be glad to continue taking it.

# C C C MANAZINIBRE CA

SOLE MANUFACTURERS OF

## IMPROVED VULCANIZED FIBRE TRACK-BOLT WASHERS.

which form non-metalic, permanently elastic compensating cushions, absorbing shocks and vibrations, and absolutely locking the nuts. These Washers have been adopted by a large number of railroads as the cheapest and best device in use. Flexible vulcanized-fibre dust guards and oil box packings, which are absolutely unaffected by oil and grease, are far more durable than leather and much cheaper.

Office and Factory, Wilmington. Del.

### **ZUCCATO'S PAPYROGRAPH**

Simmons Hardware Co., of St. Louis, says of it: "Our Papyrograph, purchased some time since, gives entire satisfaction. Would not be without it for \$1,000 a year." For specimens of work, price-list, etc., address, with stamp, THE PAPYROGRAPH CO., 41 to 45 SHETUCKET STREET, NORWICH, CONN. Local Agents wanted.





THE JENKINS STANDARD PACKING is acknowledged by users as the Best in he world. Unlike all other Packings, the Jenkins Standard Packing can be made any thickness desired in a joint by placing two or as many thickness estogether as desired, and following up joint it vulcanizes in place and becomes a metal of itself (it is frequently called Jenkins Metal), and will last for years, as it does not rot or burn out. Avoid all imitations, as a good article is always subject to cheap imitations. The genuine has stamped on every sheet, "Jenkins Standard Packing," and is for sale by the Trade generally. Manufactured only by

## JENKINS BROS.,

PROPRIETORS JENKINS PATENT VALVES, PACKING, &c...
71 JOHN ST., NEW YORK...
104 Sudbury St., Boston.

# THE COST OF ADVERTISING

For any responsible advertiser, making application in good faith, we prepare and furnish a written estimate, showing the cost of any proposed advertising in the leading Newspapers of the United States and Dominion of Canada.

We prepare and exhibit printed proofs of any proposed advertisements.

For the preparing of estimates no charge is made, and the applicant is placed under no obligation to transact his advertising business through us unless it appears to him that by doing so he will best advance his own interests.

A copy of the advertisement, a list of the papers, the space the advertisement is to occupy and the time it is to appear, should all be given with the application for an estimate of the cost.

When an advertiser does not know what he wants or what he ought to do, he can designate some sum of money within which he wishes to limit his expenditure; this will enable us to prepare for him such a list of papers as will be the best for his purpose, within the limits which he prescribes.

Send 25c. for 100-page pamphlet. Address

## GEO. P. ROWELL & CO.

Newspaper Advertising Bureau,

Printing House Square,
Opposite Tribune Building,

10 Spruce St., New York.

## DODGE & SINCLAIR.

MANUFACTURERS OF

Rubber and Leather BELTING.

RUBBER HOSE PACKING, TUBING, SPRINGS, GASKETS, Etc.

RUBBER CLOTHING, LACE LEATHER, BELT HOOKS,

RAILROAD, MINING, AND MILL SUPPLIES.

No. 21 Park Place, NEW YORK.

#### The Canadian Canals.

THE River St. Lawrence, with the system of canals established on its course above Montreal, and the Lakes of Ontario, Erie, St. Clair, Huron and Superior, provides, says the report of Sir Charles Tupper, a system of navigation which extends from the Straits of Belle-Isle to Thunder Bay and Duluth, at the head of Lake Superior, a distance of 2,384 statute miles. The difference in level between Lake Superior and Three Rivers, Que., where tidal influence ceases, is about 600 feet. Between Lake Superior and Huron is the Sault Ste. Marie canal, built by the United States, whose lock lifts 18 feet. All the remaining canal navigation via the St. Lawrence to the sea is provided by Canada, whose canals constructed between Montreal and Lake Erie overcome, by their locks, a height of 5331 feet. These are the Lachine, Beauharnois, Cornwall, Farran's Point, Rapide Plat, Galops and Welland. Their aggregate length is 70½ miles; number of locks, 53.

From the table on page 152 of the report for 1881 of the Minister of Railways and Canals, we obtain a very satisfactory statement of dis-

	Miles.
Straits Belle-Isle to tide water	900
Tide water to Montreal	86
Lachine Canal	816
Lake St. Louis	151/4
Beauharnois Canal	111/4
Lake St. Francis	323/4
Cornwall Canal	111%
River and Farran's Canal	161/4
Rapide Plat Canal	4
River	436
Iroquois Canal	3
Junction and Galops do	4%
Prescott to Kingston (River)	66%
Lake Optario	170
Welland Canal	27
Lake Erie	232
River Detroit	18
Lake St. Clair	25
River Ste. Clair	33
Lake Huron	270
River Ste. Marie	54
Sault Ste. Marie Canal	1
Lake Superior	390
Total	2 284

Of these 2,384 miles from Lake Superior to the straits of Belle-Isle, 71 miles are artificial navigation, and 2,313 open navigation. From these straits to Liverpool is a distance of 2,231 statute miles, making in all 5,615 miles from say Duluth to Liverpool.

The size of the locks on the Rapide Plat, Farran's Point, and Galops canals (collectively known as the Williamsburgh Canals) is 200 feet in length by 45 in width, with 9 feet water on the sills, and the lockage in all 314 feet, six locks. This group of canals has a breadth of 90 feet at the surface of the water and 50 feet on the bottom of the canal. The Beauharnois Canal has nine locks, 200x45 feet each, with a total rise, or lockage, of 821 feet, overcoming the Cascades Cedars and Coteau Rapids. This also has 9 feet of water on the sills. Its breadth on the bottom is 80 feet and at the surface 120. In the Cornwall Canal, which is being enlarged, there are seven locks, five 220 by 45 feet, and two 270 by 45 feet, whose rise is 48 feet and depth of 9 to 14 feet of water. This canal overcomes the Long Sault Rapids and the Williamsburgh group, the Galops, Iroquois, Cardinal, and Farran's Point Rapids. Upon the old Lachine Canal, the locks, five in number, were of the

same dimensions as those first named, having a feet. On the Rideau canal system there is total rise of 44% feet, and reaching past the St. Louis Rapids. The bottom breadth was 80 feet and the surface breadth 120 feet. The scheme of enlargement gives the two new locks at Montreal a depth of 18 feet, and the three to the westward 14 feet, their dimensions being 270 feet by 45. The canal itself is to be 15 feet deep, and 150 feet wide; but the prism from Cote St. Paul to the Harbor of Montreal 200 feet wide by 19 feet deep. So much for the lower St. Lawrence canals.

A channel is under contract, we should have said, whereby through submarine blasting at the Galops rapids, a depth of 16 to 17 feet will be attained for a distance of 200 feet in width.

The new line of the Welland Canal from Port Dalhousie on Lake Ontario, to Port Colborne, on Lake Erie, has a total rise or lockage of 3263 feet, by 25 lift locks and 1 tidal lock. The dimensions of the lift locks are 270 feet by 45, the present depth 12 feet, and the contemplated depth 14 feet. The summit level of the canal having been lowered to that of Lake Erie, a regular supply of water may at all times be

This completes the chain of our canals on the St. Lawrence line, and it is the object of the Government to make the whole route fit for vessels of 12 to 14 feet draught of water, just as it has been the aim, now happily attained, of the Harbor Commission of Montreal, to offer a twenty-five foot channel from the sea and a twenty-five foot harbor, to ocean-going craft.

Though not equal in extent or general importance to the other, the navigable route between Montreal and Ottawa, and from that capital to Kingston, a total of 2461 miles, affords space for a large traffic. Apart from the Lachine Canal, there are 59 locks with a lockage of 5331 feet within this distance, represented by the St. Anne's Lock and piers, the Carillon, the Chute a Blondeau, the Grenville, and the Rideau canals. These had all been shallower works and with smaller locks than the St. Lawrence series, but new works are in progress which will give nine feet water in locks 45x200

282 feet lift from Ottawa to the Narrows, near Chaffey's and 164 feet fall thence to Kingston. The summit level is at the upper Lake Rideau.

By means of the Richelieu River and the Chambly Canal, which are connected on the American side of the line by Lake Champlain with the Erie Canal and the Hudson, navigation between the St. Lawrence and the city of New York, 411 miles, is secured. There are on the Chambly Canal nine locks, with 7 feet depth of water, the smallest being 118 feet by 23. What is known as the Trent River navigation, composed of a chain of lakes and rivers between Lake Huron and the Bay of Quinte on Lake Ontario, 235 miles, was begun in 1837, and intended to be made continuous. Only part, however has been made navigable, and that mostly for the passage of timber; 155 miles of the distance from Trenton to Lindsay and Lake Scugog is available for light-draft vessels. The Murray Canal, connecting the Bay of Quinte with Lake Ontario near Trenton has been authorized and is being proceeded with. We conclude with the St. Peter's Canal, connecting St. Peter's Bay, on the Atlantic, with the Bras d'Or Lakes of Cape Breton, Nova Scotia, over an isthmus half a mile across. Its breadth is 55 feet, depth 18 feet, and the lock is 48 by 200 feet .- Toronto Monetary Times.

Another trial trip of the Shaw locomotive was made, on the 17th inst., over the Delaware and Bound Brook Railroad. A run of fifty miles was made in fifty-six minutes, drawing three cars. The Shaw locomotive is being brought to public notice by William E. Lockwood, its peculiarity being that it has double cylinders on each side and the driving-wheels have no counter balance. By this system it is claimed the swaying motion of the engine is obviated, as well as the tremendous hammering on the rails by the counter-balances. The Shaw first ran experimentally on the Boston and Providence Railroad in June of last year; and subsequently on the Fitchburg Railroad. In the following September it was transferred to the Camden and Atlantic Railroad, on which, in November, 1881, it ran sixty miles in seven-ty-seven minutes, less two stoppages of six ty-seven minutes, less two stoppages of six minutes, making the actual running time sixty-

## The D. K. Miller Improved Padlock.

SUPERIOR TO EVERY OTHER

Mechanical Construction, Security, and Durability, MADE OF BRASS,

With Springs of the Celebrated Phosphor-Bronze, And Warranted to Stand in Every Climate.



Shown by general use to be the BEST Padlock in the Market for Railway Cars, Switches Tool Boxes, and for all other purposes for which padlocks are used.

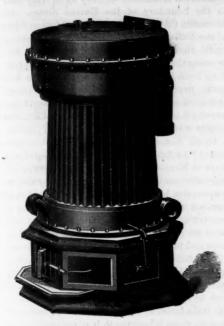
Every Padlock with a different Key and Master Key to unlock them all; or all Padlocks with same key if required.

Send for Circulars with Details and Prices.

## FAIRBANKS & COMPANY, Agents,

Philadelphia, Baltimore, New Orleans, NEW YORK. Buffalo, Pittsburgh, Albany.

#### THE SALMON HEATER CAR



"36 per cent of coal saved and the car kept noticeably warmer !"

by using THE SALMON CAR HEATER. It Insures Safety from Fire in case of Accident, Economy in Fuel and RAPID CIRCULA-TION. It heats quickly, is SELF-REGULA-TING, and can be used for

either STEAM OR HOT WATER.

The Water Tubes do not come in contact with the Coals, but occupy the Smoke Flue in such a manner as to absorb the greatest amount of heat from Coal in a low state of combustion without danger of chilling the fire.

Once filled with coal the fire will last from 24 to 60 hours, according to weather, without replenishing, as proved by actual test.

At the last "Mechanics' Fair" it received the Silver Medal, being the highest award to heaters of any kind.

CORRESPONDENCE SOLICITED.

## The Salmon Heater Co.

OFFICE, 35 CONGRESS STREET, BOSTON, MASS.





PUSHER

#### MADE ENTIRELY OF STEEL ONE MAN with it can easily

move a loaded car.

Manufactured by E. P. DWIGHT, DEALER IN RAILBOAD SUPPLIES. 407 LIBRARY ST...

PHILADELPHIA.

ESTABLISHED IN 1836.

## LOBDELL CAR WHEEL COMPANY. Wilmington, Delaware.

GEORGE G. LOBDELL, President, WILLIAM W. LOBDELL, Secretary, P. N. BRENNAN, Treasure

First-Class English

AT LONDON PRICES, F. O. 3.

We also purchase all classes of Railroad Securities and negotiate loans for Railroad Companies.

Wm. A. Guest & Co., MECHANICS' BANK BUILDING, Nos. 31 and 33 Wall Street, - New York.

## SAFETY RAILROAD SWITCHES,

WITH MAIN TRACKS UNBROKEN.

Railroad Crossings, Frogs, and other Rail-road Supplies,

MANUFACTURED BY THE

## WHARTON RAILROAD SWITCH CO.

PHILADELPHIA.

Works: 23d and Washington Avenue.
Office: 28 South 3d Street.

## WATER TUBE STEAM BOILERS.



THE BABCOCK & WILCOX CO.,

30 Cortlandt St, New York. 116 James Street, Glasgow.



REMINCTON STANDARD
Only Rapid and Durable
WRITING MACHINE.
Used at sight. Phonography practically taught. Situations procured for
competent Students. Send for circumpetent Students.



We continue to actassolicitors for patents, caveais, trade-marks, copyrights, etc., for the United States, and to obtain patents in Canada, England, France, Germany, and all other countries.

Thirty-six years' practice. No charge for examination of models or drawings. Advice by mail free.

Patents obtained through us are noticed in the SCIENTIFIC AMERICAN, which has the largest circulation, and is the most influential newspaper of its kind published in the world. The advantages of such a notice every patentee understands.

This large and splendidly illustrated news-

patentee understands.

This large and splendidly illustrated newspaper is published WEEKLY at \$3.20 a year, and is admitted to be the best paper devoted to science, mechanics, inventions, engineering works, and other departments of industrial progress, published in any country. Single copies by mail, 10 cents. Sold by all newsdealers.

Address Munn & Commissioners

Address, Munn & Co., publishers of Scien-fic American, 261 Broadway, New York. Handbook about patents mailed free.

#### OUR CANADIAN LETTER.

[From our Special Correspondent.]

THE FULL TEXT OF THE OBDER DISALLOWING THE MANITOBA BAILWAYS—RAILBOAD AND OTHER NOTES.

The disallowance of the Manitoba Railways, which is just now attracting and exciting so much interest among all classes, both in Canada and the United States, is herewith explained in the following certified copy of a report of a committee of the Privy Council, approved by the Deputy Governor, November 3d, 1882—

The Committee of the Privy Council have had under consideration a report from the Minister of Justice, in which he recommends that the power of disallowance vested in Your Excellency in Council under section 90 of the British North America Act, 1867, be exercised in regard to the following Acts of the Legislature of the Province of Manitoba, namely:—

44 Victoria, chapter 38 (1881), intituled "An Act to incorporate the Manitoba Tramway Company."

44 Victoria, chapter 39 (1881), intituled "An Act to incorporate the Emerson and Northwestern Railway Company."

45 Victoria, chapter 30 (188-), intituled "An Act to encourage the building of Railways in Manitoba"

The Committee learn that authentic copies of these Acts were received by the Secretary of State as follows:—44 Victoria, chapters 38 and 39 (1881), on the 28th day of February, 1882, and 45 Victoria, chapter 30, (1882), on the '3d day of October, 1882.

The Committee, whilst concurring in the report of the Minister of Justice and humbly advising Your Excellency to disallow each and every of the said Acts, desire to record the expression of their constant anxiety that the action of the Legislatures of the several Provinces of the Dominion should be interfered with under the power of disallowance reserved to Your Excellency in Council by the British North America Act, 1867, as seldom as possible; but when, as in the case of these Acts, the declared policy of Parliament adopted for the common weal is set a nought, and local legislation enacted leading indirectly, and directly too, to its frustration, the Committee of the Privy Council conceive that they are compelled by their duty to Parliament humbly to advise Your Excellency to use the power in question.

They further advise that a copy of this minute, when approved, and of the report of the Minister of Justice, be transmitted by the Secretary of State to the Lieutenant-Governor of Manitoba for the information of his Government.

JOHN J. McGEE, Clerk, Queen's Privy Council,

DEPARTMENT OF JUSTICE,

Ottawa, 31st October, 1882.

To His Excellency the Governor-General in Council:

The undersigned has the honor to report,

That the contract dated October 21, 1880, made between the Government of Canada and the Canadian Pacific Railway Company contained the following clause:—

"15. For twenty years from the date hereof, no line of railway shall be authorized by the Dominion Parliament to be constructed south of the Canadian Pacific Railway from any point at or near the Canadian Pacific Railway except such line as shall run southwest, or to the westward of southwest, nor to within 15 miles of latitude 49; and in the establishment of any new Province in the Northwest Territories provision shall be made for continuing such prohibition after such establishment until the expiration of the said period."

This contract was approved and ratified by Parliament by an Act assented to on the 15th day of February, 1881, and the action of the Government in regard to the direction and limits of Railway construction in the territories of the Dominion became part of the legislation of Parliament and of the settled policy of the country.

By an Act of Parliament, 44 Victoria, chapter 14 intituled "An Act to provide for the extension of the boundaries of the Province of Manitoba," and by an Act of the Legislature of Manitoba, 44 Victoria, chapter 1, intituled "An Act for the extension of the boundaries of the Province of Manitoba," it is provided as follows:—

"(b) The said increased limit and territory thereby added to the Province of Manitoba shall be subject to all such provisions as may have been or shall hereafter be enacted respecting the Canadian Pacific Railway and the lands to be granted in aid thereof."

The policy of the Government thus confirmed by Parliament and acquiesced in by legislation in the Province of Manitoba is intended to prevent the diversion of the traffic of the Northwest Territories to the railway system of the United States and to endeavor by all means possible to secure it to Canadian railways.

Two Acts in addition to one already disallowed were passed by the Legislature of Manitoba in the session of 1881, and one in the session of 1882, which are in conflict with the settled policy above referred to.

By 44 Victoria, Chapter 38 (1881 Manitoba), intituled, "An Act to incorporate the Manitoba Tramway Company," power is given to the corporators to construct and operate cheap iron or wooden tramways along all or any of the public highways of the Province, having first secured the consent of the municipality within which the said public highway is situate.

By section 15, sub-section 4, power is given to make, complete, alter, and keep in repair the tramway with one or more sets of rails or tracks to be worked by the force and power of steam, or of the atmosphere, or of animals or by me chanical power or by any combination of them, the corporators having substantially the power to build and open a railway.

By 44 Victoria (1881) chapter 39 (Manitoba) intituled "An Act to incorporate the Emerson and Northwestern Railway Company," the corporators are empowered to construct a railway from a point on the west side of the Red River opposite the town of Emerson in the Province of Manitoba, to Mountain City or Nelsonville' in the said Province, and thence northwest to a point on the western boundary of the said Province, and also a branch line from Moun-

tain City or Nelsonville aforesaid to the said boundary.

Emerson is situated directly on or very near to the boundary of the United States, and Mountain City is situated within "fifteen miles of the 49th parallel of latitude." This Company by its charter could not only construct a line crossing the Canadian Pacific Railway, and running from it in a southeasterly direction to a point practically on the boundary between Manitoba and the United States, but could also construct a line west from Mountain City, and wholly within fifteen miles of the 49th parallel.

By 45 Victoria, chapter 30 (Manitoba), intitutled "An Act to encourage the building of railways in Manitoba," power is given within the legislative authority of the Province for the incorporation by letters patent of any number of persons not less than five for the purpose of constructing, maintaining, and operating railways for public use in the conveyance of persons and property in the Province of Manitoba.

The Act last mentioned was passed subsequent to the extension of the limits of Manitoba, but no provision is made in the Act to give effect to the terms and conditions upon which the boundaries of that Province were enlarged that is, there is nothing in it to prevent the corporators from exercising their powers within the added territory. This act is, therefore, not only open to the objections pointed out in regard to the two Acts passed during the session of 1881, but is capable of being used to contravene the terms in regard to the Canadian Pacific Railway upon which the boundaries of the Province of Manitoba were enlarged.

In order that the General Acts should conform to the legislation of Parliament in regard to the Canadian Pacific Railway, provision should have been made that no Company thereby incorporated should be authorized to construct a line of railway south of the Canadian Pacific Railway from any point at or near that railway, unless the line ran southwest or to the westward of southwest, and terminated at a point distant at least fifteen miles from the 49th parallel of latitude.

The undersigned, for the reason above stated, humbly recommends that the said Acts, namely:

44th Victoria (1881), chapter 38-

"An Act to incorporate the Manitoba Tramway Company";

44th Victoria (1881), chapter 39-

"An Act to incorporate the Emerson and Northwestern Railway Company";

45th Victoria (1882), chapter 30-

"An Act to encourage the building of railways in Manitoba";

-be disallowed.

(Signed) A. CAMPBELL,

Minister of Justice.

After carefully considering the above, it will be seen the government could not do otherwise.

" THE CHIGNECTO SHIP BAILWAY."

The engineering party have completed their examination and survey of the country between the Bay of Fundy and the Gulf of St. Lawrence, and located the route. Mr. Darnton Hutton, representing the English capitalists, left for England. Mr. Ketcham the projector will ar
(Continued on page 946).

#### BUSINESS CARDS.

A LLEN PAPER CAR WHEEL CO., 240 BROADWAY, New York.

BROWN BROTHERS & CO., BANKERS AND BROKers, 59 Wall Street, N. Y.

BABCOCK & WILCOX CO., WATER TUBE STEAM Boilers, 30 Cortlandt Street, N. Y.

BROWN MANUFACTURING CO., ABSORBENT Wiper Cloths, Providence, R. I.

BEARDSLEY, D. N. & CO., MANUFACTURERS OF Superior Oak and Chestnut Lumber, and Railroad Ties, 9 Murray Street, N. Y.

CHESTER STEEL CASTING CO., MANUFACTURE Steel Castings, Cross-heads, Rocker-arms, Piston-heads, etc., for Locomotives, 407 Library St., Phila., Pa.

DAVIDS, JOHN B. & CO., WRITING INKS, 184 WILliam Street, N. Y.

Davis, John H. & Co., Bankers and Brokers, 17 Wall Street, N. Y.

DODGE & SINCLAIR, MANUFACTURERS OF RUBber and Leather Belting, 21 Park Row, N. Y.

EVANS, GEO. A. IRON AND STEEL BAILS, 74 WALL

EAGLE TUBE CO., BOILER TUBES, 614 to 626 WEST Twenty-fourth Street, N. Y.

E AMES VACUUM BRAKE CO., RAILWAY TRAIN Brakes, 15 Gold Street, N. Y.

TAIRBANKS & CO., STANDARD SCALES, RAILROAD and Warehouse Trucks, and Copying-presses, 311 Broadway N. Y.

ORDON & DUGGAN, RAILWAY SWITCHES, 28 State Street, Boston, Mass.

GUEST, WM. A. & CO., IRON AND STEEL RAILS, 41 and 43 Pine Street, N. Y.

GEORGE, EVAN P. Jr., COUNSELLOR AT LAW AND Solicitor of Patents, 4 and 6 Warren Street, N. Y.

HARLAN & HOLLINGSWORTH CO., MANUFACTURE Passenger Cars, Wilmington, Del.

HAYWARD, S. F. GENERAL AGENT BABCOCK Fire Extinguisher, 407 Broadway, N. Y.

IVISON, BLAKEMAN, TAYLOR & CO., STEEL PENS 753 and 755 Broadway N. Y.

JOHN STEPHENSON CO., TRAM-CAR BUILDERS, New York.

K AOLATYPE ENGRAVING CO., 104 FULTON ST., New York.

K NOX & SHAIN, MANUFACTURERS OF ENGINEERing and Telegraphic Instruments, 716 Chestnut Street, Philadelphia, Pa.

MOLLER & SCHUMANN, MANUFACTURERS OF Coach and Car Varnishes, Brooklyn, N. Y.

National Tube Works Co., Manufacture Wrought Iron Pipes and Tubes, 104 and 106 John Street, N. Y.

National railway patent waste company 240 Broadway, N. Y.

PARDEE CAR WORKS, PARDEE, SNYDER & CO., (Limited) Watsontown, Pa.

PERKINS & CHOATE, AGENTS FOR STEEL OR IRON Rails, 23 Nassau Street, N. Y.

RIEHLE BROS., STANDARD SCALES AND TESTING Machines, 115 Liberty Street, N. Y.

SHUGG BROS., DESIGNERS AND ENGRAVERS ON Wood and Photo-Engravers, 18 Cortlandt St., N. Y.

SWIFTS IRON AND STEEL WORKS, MANUFACturers of all Weights of Standard and Narrow Gauge Rails, 26 West Third St., Cincinnati, Ohio.

THE CONGDON BRAKE SHOE COMPANY, IMPROV ed Car Brake Shoe, 142 Dearborn Street, or opposite Tribune Building, Chicago.

THE RAMAPO IRON WORKS, MANUFACTURERS OF the Tracy Safety Switch, and General Railroad Equipment. Works and office: Ramapo, Rockland Co., New York.

UNITED STATES MINERAL WOOL COMPANY, 16 Cortlandt Street, N. Y.

VANDERBILT & HOPKINS, RAILROAD TIES, 120 Liberty Street, N. Y.

VALENTINE & CO., MANUFACTURERS OF FINE Coach and Car Varnishes, 323 Pearl Street, N. Y.

THE IMPROVED

## HANCOCK INSPIRATOR

\_FOR\_

LOCOMOTIVES.



OVERFLOW

Send for Circulars and Full Particulars to the

HANCOCK INSPIRATOR CO.,

No. 34 Beach Street, BOSTON, MASS.

E. W. Vanderbilt.

E. M. Hopkins

# VANDERBILT & HOPKINS,

RAILROAD TIES,

## CAR AND RAILROAD LUMBER,

White and Yellow Pine, Oak, Gum and Cypress Cut to Order,

120 LIBERTY ST.

NEW YORK.

Also North Carolina Pine Boards, Plank and Dimensions Lumber to Order. GENERAL RAILROAD SUPPLIES.

# CILINS, BOUDEN & JENKINS, BANKERS PINE ST - NEW YORK

Interest allowed on Deposits subject to Draft. Securities, &c., bought and sold on Commission.

Investment Securities always on hand.

### John H. Davis & Co., BANKERS AND BROKERS.

No. 17 Wall Street, New York.

Interest allowed on temporary and standing deposits Stocks and Bonds bought and sold on Commission only, either on Margin or for Investment.

# Paine, Webber & Co. BANKERS & BROKERS,

No. 53 Devonshire St., Boston.

(Members of the Boston Stock Exchange.)

Devote special attention to the purchase and sale of Stocks and Bonds in the Boston market, the careful selection of securities for investment, and the negotiation of commercial paper.

WM. A. PAINE, WALLACE G. WEBBER. C. H. PAINE,

## BROWN BROTHERS & Co.,

No. 59 WALL STREET, NEW YORK,

-BUY AND SELL-

BILLS OF EXCHANGE

GREAT BRITAIN, IRELAND, FRANCE, GERMANY, BELGIUM, AND HOLLAND,

Issue Commercial and Travelers' Credits in Sterling,
AVAILABLE IN ANY PART OF THE WORLD, AND IN
FRANCS IN MARTINIQUE AND GUADALOUPE.

Make Telegraphic Transvers or Money between this and other countries, through London and Paris.

Make Collections of Drafts drawn abroad on all points in the United States and Canada, and of drafts drawn in the United States on Foreign Countries.

## D. N. BEARDSLEY & CO.,

Superior Oak and Chestnut Lumber,

Oak Car Timber a Specialty.

OFFICE: 9 MURRAY ST., NEW YORK.

ESTABLISHED 1842.

## INGERSOLL LIQUID RUBBER PAINT.

The only Paint unaffected by Moisture, Fumes from burning Coal Gas, Sun, Salt Air or Water. THIS IS RELIABLE.

# INGERSOLL'S PAINT WORKS,

Gor. Gold Street, - - NEW YORK,

rive in Ottawa during the week to submit his plans to the Government, and enter into an agreement with them, after which he sails for England, to make the working plans and drawings and secure the remaining capital for the enterprize.

J. L. McGonald & Co., Bankers and Brokers, of Halifax, have failed; liabilities about \$110,000.

A new sugar refinery will be established at Dartmouth.

It is estimated that this season there passed through the St. Johns (N. B.) River, about 125,000,000 of logs in 42,000 joints of 3,000 feet each.

#### BAILBOAD NOTES.

General Manager Van Horne, of the Canada Pacific, has arrived at Montreal, where he will henceforth establish his headquarters.

The Canada Pacific are completing arrangements for a grand excursion from Winnipeg to different points in Ontario and Quebec, about Christmas.

It is said that the Portland and Ogdensburg Railway have offered their road for sale to the C. P. R., and as the Canada Pacific have running rights over the Southeastern from Montreal to Newport, N. H., it is within the view of many that Portland, Maine, may be made a winter port.

The Canada Pacific are pledged to make a Canadian winter port, and must keep to their agreement, although there is nothing to prevent Portland being a terminal point.

The Toronto, Grey and Bruce Railway Co. will apply to the Ontario Legislature for power to issue bonds and debenture stockand to re-arrange their bonded debt; to make running arrangements with railways; to purchase, charter and work steamers, elevators, etc.

The leasing of the Canada Southern to the Michigan Central is exercising, considerably, the people along the line.

The Dominion Railway Trust and Construction Co. of Canada, with a capital of \$1,000,000, will apply to Parliament for incorporation with power to lease and work railways, elevators, telegraph lines, and charter boats, and contract for building bridges, telegraph lines, and to equip railways.

It is said that the Grand Trunk Railway contemplate advancing the commercial traveller rates from 2c to 2½c per mile.

The Canada Pacific Southwestern Branch have laid track to Manitoba City.

The Canada Pacific Railway workshops at Montreal, when completed, will give employment to some 2,000 men, principally skilled hands.

Brazilian Consul-General W. D. Bently, also agent general of the Brazilian and French line of steamers left, Monday, for France, to make arrangements and to encourage French emigration to Canada.

The survey of the Ottawa, Waddington and New York Railroad is being pushed forward rapidly, and in a few days will be completed.

Work is progressing favorably on the Kingston and Pembroke Railway, and on the Pontiac and Pacific Railway.

Petitions from the Ottawa, Waddington and New York Railway and the New York Railway Bridge Co. were presented to the Ottawa Coun-

cil, Monday night last, asking for a bonus of \$150,000 to be granted the Railway for the construction of a railway bridge across the river at Ottawa. Matter referred to committee.

The Ontario and Quebec Railway, between Toronto and Montreal, will be 309 miles long. One hundred miles is now graded, and by next year in December, the entire track will be laid and in working order.

The new Bolt Works at Toronto, when completed, will employ about 400 hands.

THE MANAGER OF THE CANADA ATLANTIC BAILWAY.

D. C. Linsley, the contractor and manager of the Canada Atlantic Railway, was born at Burlington, Vt., and educated at Middlebury. Mr. Linsley was assistant engineer under General Rosser, on the Northern Pacific. He was also prominently connected with the Vermont Central, and constructed the Burlington and Lamoille Railway, the Burlington and City Water. Mr. Linsley accomplished a remarkable engineering work in making the tunnel on the Vermont Central, near Burlington. In the construction of the Canada Atlantic, Mr. Linsley has fully upheld the eminent reputation he has as an engineer. His system of track-laying and construction was so correct that he could tell three months ahead the point that each section would reach on a given day. Mr. Linsley is tall and commanding, about 50 years of age, in the full vigor of manhood, and it is safe to say there is no man in Canada who is more popular with his employés or more highly respected by all classes. Mr. G. M. Sprague, the very popular secretary of the manager, is also highly es-

#### PERSONAL.

One of the most successful and popular men in Canada is James MacLaren, President of the Bank of Ottawa. Mr. MacLaren has been one of the most successful of Canadian lumbermen, and has, by careful attention, amassed a very large fortune. We believe that the Canada government would be performing a graceful act, and one that would meet with the approval of all shades of politics, in appointing Mr. MacLaren to one of the vacant senatorships. Although Mr. MacL. is a Reformer, he has not been a pronounced one, and has never been active in politics. The government is very strong in followers and could well afford to be generous and just in this case by appointing Mr. MacLaren, and thereby honoring the lumbering men, of whom he is one of the most distinguished. It would also be an encouragement to the young men of the country to know that successful business men might receive honors that have been heretofore given to poli-

I am desired, on behalf of a prominent Ca nadian gentleman, to gratefully acknowledge the uniformly kind treatment received by him, and all who came under his observation, from deputy collector L. H. Smith, of Richford, Vermont, whose uniform kindness and courtesy to all are deserving of especial notice.

OTTAWA, November 22, 1882.

A FURNACE that will make a hundred tons of pig iron a day is to be erected at Chattanooga, Tenn.

"W."

#### Steel.

STEEL is only iron in its best and most valuable form. The chemists once considered that it was a definite chemical compound of iron and carbon, and named it carburet of iron, and it was believed by some that this contained twenty equivalents of iron to one of carbon; but we now know that we may have a steel of ar very wide range of carburization, and that (as absolutely pure iron is unknown) all irons, whether wrought iron, cast iron, or "steel," are equally carburets of iron, so long as the carbon is not graphitic. Steel, as we may continue to call it, is not more distinctive from other forms of iron than are wrought and cast iron from each other; yet it is the only form of iron which is at once fusible and malleable, and it possesses, besides, the peculiar property of being greatly hardened by being heated and then plunged into water. It is not unlikely that, for all purposes of construction, cast iron and wrought iron will yet become obsolete materials, and useful only for the conversion into the best kind of iron, viz., "steel." And it may happen yet that we shall drop the almost meaningless term "steel," and call it "iron" only. Cast iron might then be described as crude or raw iron, and wrought iron as rotten iron or burnt iron, as it really is-its valuable constituent, carbon, being burnt out to an injurious extent in the toilsome and, indeed, barbarous operation of "puddling." Not alone in tensile strength, but in ductility or toughness, steel is now as much better than the wrought iron as the latter is better than cast iron; and steel has the further advantage that it is manageable in eastings or forgings of any weight, where, on the other hand, cast iron would be too brittle and too weak, and wrought iron unsafe from the danger of unsound welds and internal crystallization.

Of late years iron, whether known by that name or as "steel," has been growing in strength and adaptability, and it has thus attained qualities which would have been incredible thirty years ago. We now have castings, forgings, rolled bars, rails, wire, etc. made of "steel," which are beyond all comparison stronger and tougher than iron in any other form known before. It is this wonderful growth of iron, so far as useful qualities are concerned, that has made the metallurgy of steel so popular among non-professional men, thousands of whom are now nearly as well informed upon it as upon those more engrossing questions of ordnance and ship-armor, upon which at least half of all the reading men in the civilized world now hold definite opinions. Bessemer's wonderful discovery turned general attention to the philosophy of iron making, and to the beautiful combinations of which iron is capable, and it is now well understood that there are other and not less beautiful analyses to be discovered, which will yet give to iron an intrinsic value, not only greater than that of gold and silver, but far be-yond anything now known of the best steel. The great secret of iron cultivation, if we may employ such a term, is crystallization, and this cannot long elude the grasp of the genius of metallurgy; and when we once control the size, form and arrangement of the crystals of iron, in all its stages of conversion, we shall have made it, in effect, a new metal.—Trade Review and Western Machinist.

Some of the illuminated buoys introduced in European waters have been made to burn thirty days, and some four times that period-those of a certain size, containing gas sufficient to furnish the light, for one year, the flame being constant and steady night and day, and requiring no attention whatever after being once put in operation. The lantern attached to the buoy admits air enough to feed the flame, but not a particle of water can enter. The most violent gales, or the greatest force of the waves, produce no effect upon this light; it burns with undimmed brightness as long as gas is in its reservoir, and the light, it is asserted, can be thrown six or seven miles in clear weather. The refilling of the buoy at certain intervals, which is performed by a tender, requires but a few minutes' time; it is accomplished by sim-ply passing the gas from a storeholder, by means of a flexible tube, into the buoy.

### RAILROAD IRON.

The undersigned, agents for the manufacturers, are prepared to contract to deliver best quality American or Welsh Steel or Iron Rails, and of any required weight and pattern. Also Speigel and Ferro Manganese.

#### PERKINS & CHOATE,

23 Nassau Street,

New York.

NEW PATENT PROCESS. Cheapest known for Original Work.

#### 

NGINEERS, Mechanics, Mill Owners, Builde Manufacturers, Miners, Merchants, etc. will find in Moore's Universal Assistant and Complete Me-CHANIC, a work containing 1016 pages, 500 Engravings, 461 Tables, and over 1,000,000 Industrial Facts, Calculations, Processes, Secrets, Rules, etc., of rare utility in 200 Trades. A \$5 book free by mail for \$2.50, worth its weight in gold to any Mechanic, Farmer or Business Man. Agents Wanted. Sure sale everywhere for all time. For Illustrated Contents Pamphlet, terms, and Catalogue of 500 Practical Books, address NATIONAL BOOK COMPANY, 73 Beekman Street, New York.



## C.B.ROCERS & CO.

Manufacturers of the Latest Improved

## WOOD-WORKING MACHIN

FOR-

CAR BUILDERS, PLANING-MILLS. CABINET, CARRIAGE, AND RAILROAD SHOPS, HOUSE BUILDERS. SASH, DOOR, AND BLIND MAKERS.

JAMES S. NASON.

WARERDOMS: No. 108 Liberty Street, - - New York'

BETHLEHEM IRON COMPANY.

## IRON AND STEEL RAILS.

GEO. A. EVANS,

74 Wall Street, N. Y.

RAILROAD

RIEHLE BROS 50 South Fourth Street.

ST. LOUIS: 609 North Third Street, NEW ORLEANS: 142 Gravier Street.

NEW YORK: 115 Liberty Street.

TRACK SCALES.

## PARDEE CAR WORKS.

WATSONTOWN, PA.



Proprietors.

Manufacturers of Mail, Baggage, Box, Gondola, Flat, Gravel, Ore, Coal, Mine, and Hand Cars; Kelley's Patent Turn-Tables, and Centers for Wooden Turn-Tables; Car Castings, Railroad Forgings, Rolling-Mill Castings, Bridge Bolts, Castings,

We have, in connection with our Car Works, a Foundry and Machine-Shop, and are prepared to do a general Machine Business.

Chairman: ARIO PARDEE.

. Secretary: N. LEISER.

Treasurer and General Manager: H. F. SNYDER.

New York City Office-Room 2. No. 161 BROADWAY.

ofthem

in

C. W. Leavitt. Agent.



ESTABLISHED 1864.

Strictly First-Class

ACCOUNT BOOKS!

FINE MERCANTILE

rinting.

All Orders Executed on our own Premises.

Bankers and Merchants who appreciate THE VERY BEST QUALITY OF WORK and are willing to pay a fair price for it, are invited to favor us with their orders. We are Headquarters.

THE MOST POPULAR LETTER 280,000 ever introduced. Unequaled in durability, cheapness, or convenience in filing

and reference. We have supplied them to a large number of the leading Bankers and Merchants of New York City and elsewhere, and in every case they are highly recommended.

Price \$6.00 per doz. Parties ordering them to be sent by mail should send the amount due for Postage, If sents each, in addition to the price for the Files.

JOHN S. HULIN, Stationer, Established 1864. 4.1 B'way, N. Y.

#### Inventors, Read This.

1. THE AMERICAN RAILROAD JOURNAL gives great prominence to descriptions of such new inventions as relate to its proper class of subjects.

2. Its columns contain at least a notice of every patent granted in the United States upon railroad and kindred inventions. In many cases more than this is desirable, and

3. Its editors invite communications from inventors regarding their inventions.

4. Such communications are treated with a view to their publication, and appear within these columns in all cases when this is desirable.

5. This is the oldest railroad journal in the world, and therefore

6. Inventors cannot do themselves better service in order to advance their interests, than to act upon the foregoing information.

#### List of Patents for Inventions Relating to Railways, Manufacturing, Mining, Machinery, Etc.

BEARING DATE OF NOVEMBER 21, 1882.

267,662. Car-Coupling: Ezra F. Beal, Everett, Mass., assignor, by mesne assignments, to himself and Alonzo Dean, same place. Filed July 31, 1882.

267,664. Car-Coupling: Bichard T. Bishop, St. Louis, Mo. Filed Sept. 5, 1882.

267,667. Apparatus for Extinguishing Fire in Railway Cars: Marcus Brockway and Charles N. Watts, James town, N. Y., assignors of one-third to Porter Sheldon, same place. Filed June 28, 1882.

267,681. Apparatus for Controlling the Movement of Trains: Edward N. Diekerson, Jr., New York, N. Y. Filed April 11, 1881.

267,692. Oil and Water Injector: Omar H. Jewell, Chicago, Ill. Filed Sept. 26, 1882.

267,705. Railroad Gate: William T. McClure, Joe, and Walter N. Mitchell, Blue Ridge Springs, Va. Filed Aug. 12, 1882.

267,725. Valve-Gear for Oscillating Engines: Henry F. Shaw, Boston, Mass. Filed April 24, 1882.

267,726. Locomotive Engine: Henry F. Shaw, Boston, Mass. Filed Aug. 18, 1882.

267,727. Friction Buffer: Thomas Shaw, Philadelphia, Pa. Filed Aug. 24, 1882,

267,743. Method of Purifying Natural Waters for Use in Steam Boilers: Charles B. Dudley, Altoona, Pa. Filed Nov. 3, 1881.

267,749. Car-Coupling: Elijah M. Hobbs, Santa Rosa, Cal. Filed Sept. 5, 1882.

267.761. Steam Generator: James C. Stead, Brooklyn, N. Y. Filed April 27, 1882.

267,772. Railway Hand-Car: William J. Brewer, Bombay, India. Ffled March 22, 1882. Patented in India April 10, 1880, No. 27; in England April 17, 1880, No. 1,588; in Belgium Oct. 18, 1880, No. 52,796; in France Oct. 18, 1880, No. 139,214, and in Austria Oct. 29, 1881, No. 26,478.

267,784. Sheathing and Boofing for Bailway Cars: Robert Fulton and Alexander De Lano, Detroit, Mich. Filed July 22, 1882.

267,789. Car-Coupling: Young P. Hudson, Gatewood, Mo. Filed Sept. 15, 1882.

267,810. Device for Feeding and Watering Stock in Cars: Alfred D. Tingley, New York, N. Y., assignor to Charles Edgar Tingley, Adrian, Mich. Filed March 25, 1882. 267,823. Car-Coupling: Charles Beebee, Ravenswood, N. Y. Filed April 27, 1882.

267,830. Table Caser for Dining Cars: J. M. Blackburn, Meriden, Conn., assignor of one-half to Charles S. Per-

kins, same place. Filed Oct. 19, 1882. 267,850. Car-Coupling: George W. Eltzroth and Isaac Raypholtz, Marion, Ind. Filed Aug. 23, 1882.

267,862. Nut Lock: Addison C. Fistcher, New York, N. Y. Filed Oct. 23, 1882.

267,868. Car-Coupling: John A. Frazier, Lilly Chapel, Ohio. Filed June 24, 1882.

267,88x. Car-Coupling: Nathan M. Hale, Grand View, Tex. Filed Sept. 25, 1882.

267,891. Stock-Loading Chute: Daniel E. Hogbin, Ellinwood, Kans. Filed Aug. 15, 1882.

267,908. Car-Coupling: Frank C. Lynn, Norristown, Pa., assignor to himself and Amon W. Geiger, same place. Filed Oct. 12, 1882.

267,916. Car Wheel: George W. Miltimore, Chicago, Ill. Filed Sept. 26, 1882. Patented in England Aug. 15, 1882, No. 3,885.

267,922. Street Car Motor: Lewis C. Parker, Robinson, Kans. Filed April 27, 1882.

267,930. Metallic Railway Tie : George L. Putnam, Mt. Vernon, N. Y. Filed July 14, 1882.

267,941. Station Indicator: John Van Fleet Ryerson, New Brunswick, N. J. Filed June 21, 1882.

267,978. Railway Electric Signal Apparatus: Oscar Gas. sett, Boston, Mass., assignor to the Union Switch and Signal Company, Pittsburg, Pa. Filed Jan. 3, 1882.

267,979. Railway Electric Signal Apparatus: Oscar Gassett, Boston, Mass., assignor to the Union Switch and Signal Company, Pittsburg, Pa. Filed Jan. 3, 1882.

#### Martin's Car-Coupler.

THE car-coupler upon which letters patent were granted ORIN D. D. MARTIN, Augusta, Ga., recently, is simple and practicable, and adapted for both passenger and freight cars, whether of the same height or not, a difference of from two to twelve inches making no difference. It is automatic, and couples with the old-style links and coupling-pin. The crooked link is adapted for use when the variation between the height of the cars is considerable, and the straight one in other cases. Mr. Martin's coupler is sixteen inches in length. The link box is cross-wise, and all the machinery of the invention, which is very simple, is inclosed in the draw-head and thus protected from damage. This invention, which insures great rapidity, ease and safety in coupling, is placed at the service of railroad corporations and others, on terms which are procurable from the patentee, who also supplies full particulars of his device to inquirers.

#### Improved Street Car.

THE principal advantage claimed for the street car invented by SAMUEL Howe, of Oakland, Cal., and upon which letters patent have been issued at Washington, is its capacity to adjust itself to all imperfections of roadway. This, as a matter of course, gives less wear to both the car and roadway and greater ease and comfort to passengers. The body of Mr. Howe's car rests entirely on a spring, which gives it freedom to vibrate all ways; and is supported on a truck-frame provided with wheels. This separation of the car body and the wheels is the first leading peculiarity of the invention. Another is that the wheel axles have springs or buffers at their ends, which may be of rubber or of metal in any suitable form. By this means the axles are free to vibrate to all imperfections of the track, to switches and to curves. The old-style car body is rigid in every movement excepting up and down, and when the brake is on, is so altogether. Manifestly, a contrast of the old car with Mr. Howe's is favorable to his, so far as

But as the old saying is, "The proof of the pudding lies in the eating;" and by the actual use of the Howe car its superiority is shown to be unquestionable. Six of his cars are in use at Oakland, with the following results: Passengers ride with greater comfort in them on account of their easy motion, which is so marked that switches and curves are scarcely noticed by them, if at all. They are able also to converse while the car is going, without inconvenience from noise. These practical advantages of Mr. Howe's invention are, we are sure, good reasons why it should be investigated further by all who are interested in giving the public the most comfortable and convenient means of locomotion.

#### Signaling by Electricity.

A DEVICE for signaling by electricity has been invented by Hanlon Bros., of Cambridge, Mass. It consists of an electro magnet which, when charged from a battery, instantly puts in motion machinery by which a glass globe composed of segments or arcs of different colors is caused to rotate so as to bring whatever colored segment is required in the path of the rays of light, thus producing an effect by which approaching trains can be signaled at any distance, and in one or both directions, at the same instant. This signal apparatus is so constructed that while it can be operated from an office to any distance on the road, it also, by means of an indicator attachment in the office from which it is operated, marks and indicates any desired change of signal at the same instant of operation.

#### Underground Sun and Moon.

Two very extravagant stories may be referred to as relating to the subterranean existence of the sun and moon during their absence from the sky. Four brothers once caught the moon and hung it upon some oak-trees, and a quarter of the moon was buried with each brother as he died. When, therefore, in course of time the four quarters met in the under world, they became reunited, and shining as a complete moon they raised the dead from their sleep; so that it became necessary to send St. Peter to replace the lost luminary in heaven. Here at least is a distinct trace of the moon's presence below the earth.

The story of the sun from Servia is even more ridiculous. When the devils fell, their king carried off the sun from heaven affixed to a lance. The archangel St. Michael was seen to try to recover it. He therefore made friends with the arch-fiend, and on coming to a lake proposed a bathe. The sun on its spear having been fixed in the soil, the archangel suggested a trial in diving. But as soon as the devil had dived, St. Michael made the sign of the cross and ran off with the sun as fast as he could, hotly pursued, however, in a moment by his enemy, who just contrived to scratch the foot of the retreating archangel as he returned to the place whence he came. It was for a consolation to the latter that all men afterward who should come into the world were destined to have indented soles. The sun in this story never actually arrived underground, but it is evident for what destination it was bound .- Cornhill Maga-